

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
2	C-749 Uranium Burial Ground
4	C-747 Contaminated Burial Ground
5	C-746-F Classified Burial Ground
6	C-747-B Burial Area
7	C-747-A Burial Ground
8	C-746-K Inactive Sanitary Landfill
9*	C-746-S Residential Landfill
10*	C-746-T Inert Landfill
11	C-400 Trichloroethylene Leak Site
13	C-746-P Clean Scrap Yard
14	C-746-E Contaminated Scrap Yard
15	C-746-C Scrap Yard
16	C-746-D Classified Scrap Yard
17	C-616-E Sludge Lagoon
18	C-616-F Full Flow Lagoon
19	C-410-B HF Neutralization Lagoon
20	C-410-E HF Emergency Holding Pond
21	C-611-W Sludge Lagoon
22	C-611-Y Overflow Lagoon (includes KPDES 006)
23	C-611-V Lagoon (includes KPDES 005)
26	C-400 to C-404 Underground Transfer Line
27	C-722 Acid Neutralization Tank
28	C-712 Laboratory Equalization Tank
30	C-747-A Burn Area
31	C-720 Compressor Pit Water Storage Tank
32	C-728 Clean Waste Oil Tanks
33	C-728 Motor Cleaning Facility
38	C-615 Sewage Treatment Plant
40	C-403 Neutralization Tank
41	C-410-C Neutralization Tank
42	C-616 Chromate Reduction Facility
47	C-400 Technetium Storage Tank Area
55	C-405 Incinerator
56	C-540-A PCB Waste Staging Area
57	C-541-A PCB Waste Staging Area
58	N-S Diversion Ditch (Outside) (includes KPDES 002)
59	N-S Diversion Ditch (Inside)
60	C-375-E2 Effluent Ditch (KPDES 002)
61	C-375-E5 Effluent Ditch (KPDES 013)
62	C-375-S6 SW Ditch (KPDES 009)
63	C-375-W7 Oil Skimmer Ditch (KPDES 008 and KPDES 004)

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Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
64	Little Bayou Creek
65	Bayou Creek
66	C-375-E3 Effluent Ditch (KPDES 010)
67	C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 001)
68	C-375-W8 Effluent Ditch (KPDES 015)
69	C-375-W9 Effluent Ditch (KPDES 001)
70	C-333-A Vaporizer
71	C-337-A Vaporizer
74	C-340 PCB Transformer Spill Site
75	C-633 PCB Spill Site
76	C-632-B Sulfuric Acid Storage Tank
77	C-634-B Sulfuric Acid Storage Tank
78	C-420 PCB Spill Site
79	C-611 PCB Spill Site
80	C-540-A PCB Spill Site
81	C-541-A PCB Spill Site
82	C-531 Electric Switchyard
83	C-533 Electric Switchyard
84	C-535 Switchyard
85	C-537 Switchyard
86	C-631 Pump house and Cooling Tower
87	C-633 Pump house and Cooling Tower
88	C-635 Pump house and Cooling Tower
89	C-637 Pump house and Cooling Tower
91	UF ₆ Cylinder Drop Test Pit
92	Fill area for dirt from the C-420 PCB Spill Site
93	Concrete Rubble Pile
94**	KOW Trickling Filter and Leach Field
95**	KOW Burn Area
97	C-601 Diesel Spill
98	C-400 Basement Sump
99A	C-745 Kellogg Building Site – Cylinder Yard
99B	C-745 Kellogg Building Site – Septic Tank/Leach Field
100	Fire Training Area
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
105	Concrete Rubble Pile (3)
106	Concrete Rubble Pile (4)
107	Concrete Rubble Pile (5)
108	Concrete Rubble Pile (6)
109	Concrete Rubble Pile (7)
113	Concrete Rubble Pile (11)

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Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
129	Concrete Rubble Pile (27)
135	C-333 PCB Soil Contamination (North Side)
137	C-746-A Inactive PCB Transformer Sump Area
138	C-100 Southside Berm
145	Residential/Inert Landfill Borrow Area (P-Landfill)
153	C-331 PCB Soil Contamination (West)
154	C-331 PCB Soil Contamination (Southeast)
155	C-333 PCB Soil Contamination (West)
156	C-310 PCB Soil Contamination (West Side)
157**	KOW Toluene Spill Area
158	Chilled-Water System Leak Site
159	C-746-H3 Storage Pad
160	C-745 Cylinder Yard Spoils (PCB Soils)
161	C-743-T-01 Trailer Site (Soil Backfill)
162	C-617-A Sanitary Water Line (Soil Backfill)
163	C-304 Building/HVAC Piping System (Soil Backfill)
164	KPDES Outfall Ditch 017 Flume - Soil Backfill
165	C-616-L Pipeline & Vault Soil Contamination
166	C-100 Trailer Complex Soil Contamination (East Side)
167	C-720 White Room Sump
168	KPDES Outfall Ditch 012
169	C-410-E HF Vent Surge Protection Tank
170	C-729 Acetylene Building Drain Pits
171	C-617-A Lagoons
172	C-726 Sandblasting Facility
175	Concrete Rubble Pile (28)
176	C-331 RCW Leak Northwest Side
177	C-331 RCW Leak East Side
178	C-724-A Paint Spray Booth
179	Plant Sanitary Sewer System
180	Outdoor Firing Range (WKWMA)
181	Outdoor Firing Range (PGDP)
182**	Western Portion of Yellow Waterline
183	McGraw UST
185	C-611-4 Horseshoe Lagoon (includes KPDES 014)
192	C-710 Acid Interceptor Pit
193	McGraw Construction Facilities (Southside Cylinder Yards)
194	McGraw Construction Facilities (Southside)
195	Curlee Road Contaminated Soil Mound
196	C-746-A Septic Tank
198	C-410-D Area Soil Contamination

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Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
199	Big Bayou Creek Monitoring Station
200	Soil Contamination South of TSCA Waste Storage Facility
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
203	C-400 Discard Waste System
204	Dykes Road Historical Staging Area
205	Eastern Portion of Yellow Water Line
209	C-720 Compressor Shop Pit Sump
210	Southwest Groundwater Plume
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast
212	C-745-A Radiological Contamination Area
213	OS-2
214	OS-3
215	OS-4
216	OS-5
217	OS-6
218	OS-7
219	OS-8
220	OS-9
221	OS-10
222	OS-11
223	OS-12
224	OS-13
225A	OS-14
225B	Contaminated Soil Area near C-533-1 DMSA OS-14
226	OS-15
227	OS-16
228	OS-17
229	OS-18
463	C-746-A East End Smelter
464	C-746-A West End Smelter
469	C-745-J Yard
470	C-746-V Yard
472	C-746-B Pad
474	West of Vortec Site
477	C-340 Metals Plant
478	C-410/420 Feed Plant
480	C-402 Lime House
482	C-415 Feed Plant Storage Building
483	Nitrogen Generating Facilities

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
486	Rubble Pile WKWMA
487	Rubble Pile WKWMA
488	PCB Contamination Area by the C-410 Trailer Complex
489	Septic Tank North of the C-710 Laboratory
492	Contaminated Soil Area Near Outfall 010
493	Concrete Rubble Piles Near Outfall 001
494	Ash Receiver Area in C-410/420
495	C-410-I Ash Receiver Shed
496	C-410 Fluorine/Hydrogen Filters (Northeast Mezzanine)
497	C-410/420 F ₂ Cell Neutralization Room Vats
498	C-410/420 Sump at Columns D&E – 1&2
499	C-410/420 Sump at Column H-9&10
500	C-410/420 Sump at Column U-10&11
501	C-410/420 UF ₆ Scale Pit Sumps A&B
502	C-410/420 Sump at Column U-9
503	C-410/420 Sump at Column G-1
504	C-410/420 Sump at Column L-10
505	C-410/420 Sump at Column A-3N
506	C-410/420 Sump at Column Wa-9
507	C-410/420 Condensate Tank Pit
508	C-410/420 Settling Basin
509	C-410/420 Drain Pit
510	C-410/420 Sump at Column P&Q-2
511	C-410/420 Sump at Column Q&R-2
512	C-410/420 Sump at Column R-2
513	C-411 Cell Maintenance Room Sump Pit
517	Rubble and Debris Erosion Control Fill Area
518	Field South of C-746-P1 Clean Scrap Yard
520	Scrap Material West of C-746-A
522	C-340 Work Pit at Ground Floor Level (B-7 to B-9)
523	C-340 Metals Plant Pit at Ground Floor (F-6 to F-11)
524	C-340 Pickling System Sump (B-10 to B-11)
526	Internal Plant Drainage Ditches (includes KPDES 016)
529	C-340 Powder Plant Sump at Ground Floor Level
531	Aluminum Slag Reacting Area (C-746-H4) near the C-746-A Facility
533	TCE Spill Site from TCE Unloading Operations at C-400
536	Concrete Truck Washout Area
541	Contaminated Soil Area South of Outfall 011
549	Dirt/Concrete Rubble Pile near Outfall 008
550	Concrete Culvert Sections Located on the West Bank of the Ditch Leading to Outfall 001

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
561	Soil Pile I
562	Soil Piles C, D, E, F, G, H, J, K and P in subunit 1 north of Soil Pile I on the west bank of Little Bayou Creek
563	Soil Piles 20, CC and BW in subunit 4 north of Outfall 012 west of Little Bayou Creek
564	Soil Pile AT in subunit 5 that consists of three soil areas on the east side of the North-South Diversion Ditch north of the P-, S- and T-Landfills
565	Rubble Area KY-19 (along Bayou Creek north of C-611 Water Treatment Plant)
567	Soil Pile K013 near Outfall 013, West of Little Bayou Creek

* Investigation and remediation activities are limited to groundwater issues.

** See Table A-7 (SWMUs to be Investigated and Remediated by the U.S. Army Corps of Engineers)

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
12	C-747-A UF ₄ Drum Yard
24**	C-750-D UST
25**	C-750 1,000-Gallon Waste Oil Tank (UST)
29	C-746-B TRU Storage Area
34	C-746-M PCB Waste Storage Area
35	C-337 PCB Waste Storage Area
36	C-337 PCB Waste Staging Area
37	C-333 PCB Waste Staging Area
39	C-746-B PCB Waste Storage Area
43	C-746-B Waste Chemical Storage Area
45	C-746-R Waste Solvent Storage Area
46	C-409 Hazardous Waste Pilot Plant
48	Gold Dissolver Storage Tank (DMSA C400-03)
49	C-400 B Waste Solution Storage Tank
50	C-400-C Nickel Stripper Evaporation Tank
51	C-400-D Lime Precipitation Tank
52	C-400 Waste Decontamination Solution Storage Tanks
53	C-400 NaOH Precipitation Unit
54	C-400 Degreaser Solvent Recovery Unit
72**	C-200 Underground Gasoline Tanks
73**	C-710 Underground Gasoline Tank
90	C-720 Petroleum Naphtha Pipe
96	C-333 Cooling Tower Scrap Wood Pile
101	C-340 Hydraulic System
102A	Plant Storm Sewer – between the south side of the C-400 Building and Outfall 008
103	Concrete Rubble Pile (1)
104	Concrete Rubble Pile (2)
110	Concrete Rubble Pile (8)
111	Concrete Rubble Pile (9)
112	Concrete Rubble Pile (10)
114	Concrete Rubble Pile (12)
115	Concrete Rubble Pile (13)
116	Concrete Rubble Pile (14)
117	Concrete Rubble Pile (15)
118	Concrete Rubble Pile (16)
119	Concrete Rubble Pile (17)
120	Concrete Rubble Pile (18)
121	Concrete Rubble Pile (19)
122	Concrete Rubble Pile (20)
123	Concrete Rubble Pile (21)

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
124	Concrete Rubble Pile (22)
125	Concrete Rubble Pile (23)
126	Concrete Rubble Pile (24)
127	Concrete Rubble Pile (25)
128	Concrete Rubble Pile (26)
130	C-611 550-Gal Gasoline UST
131	C-611 50-Gal Gasoline UST
132	C-611 2,000-Gal Oil UST
133	C-611 (unknown size) Grouted UST
134	C-611 1,000-Gal Diesel/Gasoline Tank
136	C-740 TCE Spill Site
139**	C-746-A1 UST
140**	C-746-A2 UST
141	C-720 Inactive TCE Degreaser
142**	C-750-A 10,000-Gal Gasoline Tank (UST)
143**	C-750-B 10,000-Gal Diesel Tank (UST)
144	C-746-A Hazardous and Mixed Waste Storage Facility
146	Concrete Rubble Pile (40)
147	Concrete Rubble Pile (41)
148	Concrete Rubble Pile (42)
149	Concrete Rubble Pile (43)
150	Concrete Rubble Pile (44)
151	Concrete Rubble Pile (45)
152	Concrete Rubble Pile (46)
173	C-746-A Trash Sorting Facility
174	C-745-K Low-Level Storage Area
184	Concrete Rubble Pile (29)
186	C-751 Fuel Facility
187	C-611 Septic System
188	C-333 Septic System
189	C-637 Septic System
190	C-337A Sewage Treatment Aeration Tank
191	C-333-A Sewage Treatment Aeration Tank
197	Concrete Rubble Pile (30)
206***	C-753-A Toxic Substance Control Act Waste Storage Building
208*	C-746-U Solid Waste Contained Landfill
230 *	C-310-A-01
231 *	C-310-02
232 *	C-310-03
233 *	C-310-04
234 *	C-310-05

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
235 *	C-331-01
236 *	C-331-02
237 *	C-331-03
238 *	C-331-04
239 *	C-331-05
240 *	C-331-06
241 *	C-331-07
242 *	C-331-08
243 *	C-331-09
244 *	C-331-10
245 *	C-331-11
246 *	C-331-12
247 *	C-331-13
248 *	C-331-14
249 *	C-331-15
250 *	C-331-16
251 *	C-331-19
252 *	C-331-20
253 *	C-331-22
254 *	C-331-23
255 *	C-331-24
256 *	C-333-01
257 *	C-333-02
258 *	C-333-03
259 *	C-333-04
260 *	C-333-05
261 *	C-333-06
262 *	C-333-07
263 *	C-333-08
264 *	C-333-09
265 *	C-333-10
266 *	C-333-11
267 *	C-333-12
268 *	C-333-13
269 *	C-333-14
270 *	C-333-15
271 *	C-333-16 (West)
272 *	C-333-16 (East)
273 *	C-333-17
274 *	C-333-18
275 *	C-333-19

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
276 *	C-333-20
277 *	C-333-21
278 *	C-333-22
279 *	C-333-23
280 *	C-333-24
281 *	C-333-25
282 *	C-333-26
283 *	C-333-27
284 *	C-333-28
285 *	C-333-29
286 *	C-333-30
287 *	C-333-31
288 *	C-333-34
289 *	C-333-35
290 *	C-333-37
291 *	C-333-38
292 *	C-333-39
293 *	C-333-40
294 *	C-333-41
295 *	C-333-42
296 *	C-333-43
297 *	C-335-01
298 *	C-335-02
299 *	C-335-03
300 *	C-335-04
301 *	C-335-05
302 *	C-335-06
303 *	C-335-07
304 *	C-335-08
305 *	C-335-09
306 *	C-335-11
307 *	C-335-12
308 *	C-337-01
309 *	C-337-02
310 *	C-337-03
311 *	C-337-04
312 *	C-337-05
313 *	C-337-06
314 *	C-337-07
315 *	C-337-08
316 *	C-337-09

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
317 *	C-337-10
318 *	C-337-11
319 *	C-337-12
320 *	C-337-13
321 *	C-337-14
322 *	C-337-15
323 *	C-337-16
324 *	C-337-17
325 *	C-337-18
326 *	C-337-19
327 *	C-337-20
328 *	C-337-21
329 *	C-337-23
330 *	C-337-25
331 *	C-337-27
332 *	C-337-29
333 *	C-337-30
334 *	C-337-31
335 *	C-337-32
336 *	C-337-33
337 *	C-337-34
338 *	C-337-35
339 *	C-337-36
340 *	C-337-37
341 *	C-337-38
342 *	C-337-39
343 *	C-337-40
344 *	C-337-41
345 *	C-337-42
346 *	C-337-43
347 *	C-337-44
348 *	C-337-45
349 *	C-400-01
350 *	C-400-04
351 *	C-400-05
352 *	C-400-06
353 *	C-400-07
354 *	C-409-01
355 *	C-409-02
356 *	C-720-01
357 *	C-720-02

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
358 *	C-720-03
359 *	C-720-04
360	C-535
361	C-727-90 day
362	G-310-04
363	G-331-03
364	G-331-05
365	G-333-02
366	G-333-03
367	G-333-04
368	G-333-08
369	G-333-10
370	C-333-20
371	G-335-01
372	G-337-02
373	G-337-03
374	G-337-13
375	G-337-14
376	G-337-15
377	G-337-22
378	G-340-01
379	G-340-03
380	G-340-04
381	G-340-05
382	G-340-06
383	G-400-01
384	G-400-02
385	G-409-25
386	G-410-01
387	G-416-01
388	C-416 Decontamination Pad
389	G-533-01
390	G-535-02
391	G-537-01
392	G-540-A-01
393	G-540-A-1-02
394	G-541-A-01
395	G-600-01
396	G-611-U-01
397	G-612-01
398	G-612-02

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
399	G-612-A-01
400	G-635-01
401	G-710
402	G-710-04
403	G-710-20
404	G-710-24
405	G-720-22
406	G-743-T-17-01
407	G-743-T-17-02
408	G-745-B-01
409	G-745-T-01
410	G-746-G-01
411	G-746-G-1-01
412	G-746-G-2-01
413	G-746-G-3-01
414	G-746-F-01
415	G-746-S-01
416	G-746-X-01 (PCBs)
417	G-746-X-01 (Asbestos)
418	G-748-B-01
419	G-752-C-01
420	G-752-C-02
421	G-754-01
422	G-755-A-01
423	G-755-C-01
424	G-755-T-07-01
425	G-755-T-08
426	G-755-T-2-3-01
427	G-755-T-3-1-01
428	G-755-T-3-2-01
429	S-310-04
430	S-331-02
431	S-333-12
432	S-335-09
433	S-337-11
434	S-340-01
435	S-409-100
436	S-409-20
437	S-409-40
438	S-409-60
439	S-409-80

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Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
440	S-410-05
441	S-540-A-2-01
442	S-612-01
443	S-709-01
444	S-709-02
445	S-710-05
446	S-710-06
447	S-710-09
448	S-710-16
449	S-710-18
450	S-710-32
451	S-710-41
452	S-710-44
453	S-710-46
454	S-743-T-17-01
455	S-755-T-16-01
456	S-755-T-16-02
457	S-755-T-16-03
458	S-755-T-2-3-01
459	S-755-T-3-1-01
460	S-755-T-3-2-01
461	S-755-T-3-2-02
462	S-755-T-3-2-03
465	Yard Rubble Pile and Crushate Storage Area (G Yard)
466	South of Dykes Road, Pond area
467	Concrete Cylinder Holders Storage Area on Western Kentucky Wildlife Management Agency
468	Area Northwest of Outfall 015
471	Outside C-746-B South Storage Area
473	C-746-B Pad, West
475	C-745-G5-01 (Paint Enclosure)
476	Concrete Crusher
479	C-204 Disintegrator Building
481	C-410-A Hydrogen Holder
484	C-611-M Storage Tank
485	C-611-N Sanitary Water Storage
490**	McGraw Fuel Facility Waste Oil Storage Tank
491	Mercury Spill at the C-611 Water Treatment Plant Vault
514	C-340 Magnesium Fluoride Reject Silo
515	C-340 "Dirty" Dust Collection System
516	C-340 Derby Preparation Area Sludge Collection System

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
519	C-410 Sulfuric Acid Tank (C-634-B)
521	C-340 Saw System Degreaser
525	Concrete Water Tower Supports (KOW)
527	C-410 GSA/SAA at Column J-6
528	GSA/SAA at the Northwest corner of the C-745-G3 Paint Enclosure
530	Soil and Debris Storage Area by C-745-T Yard
532	Photographic Solution Treatment Area in the C-102 Building
534**	UST #18 within SWMU 193
535	S-755-T08-01 (Satellite Accumulation Area at C-755, Trailer 8)
537	S-400-001 (SAA Located Outside at the Southeast Corner of the C-400 Building)
538	S-MST-01-01 & S-MST-01-02 (Mobile Trailer 01)
539	S-MST-02-01 & S-MST-02-02 (Mobile Trailer 02)
540	S-MST-03-01 & S-MST-03-02 (Mobile Trailer 03)
542a	G-746-B-01, S-746-B-01, S-746-B-02 (GSA/SSAs located outside C-746-A)
542b	G-746-A-01, S-746-A-01, S-746-A-02 (GSA/SSAs located outside C-746-A)
543	T-746-S-01 (90 Day Storage Area)
544	T-752-C-01 (90 Day Storage Area)
545	C-755-T-22-01 and G-755-T-22
546	PGDP Post 67 Diesel Fuel Spill Area
547	PGDP Post 38 Diesel Spill Area
548	Staging Area for Concrete Piers, Wood and Rubble North Side of C-745-B Cylinder Yard
551	G-755-GSA-23 Located at C-755 near the East Fence Line
552	C-760 90-Day Accumulation Area
566	H-340-01
568	C-340 ST-90 Boxes
569	C-743-T-17 Sample Return Refrigerator
570	Sample Return Sealand

* This SWMU is permitted under a State of Kentucky Solid Waste Permit. The Kentucky Solid Waste program contains provisions for groundwater monitoring and closure.

** These SWMUs were addressed by the Kentucky Underground Storage Tank Program (Subtitle I).

*** These SWMUs are addressed by the Toxic Substance and Control Act (TSCA)

× These SWMUs are former DOE Materials Storage Areas (DMSAs).

Appendix A-3

Solid Waste Management Units which are permitted “Treatment, Storage or Disposal” Units

SWMU/AOC	DESCRIPTION
3*	C-404 Low Level Radioactive Waste Burial Ground
9	C-746-S Residential Landfill
10	C-746-T Inert Landfill
44	C-733 Hazardous Waste Storage Area
46A	C-746-Q Hazardous and Low-Level Mixed Waste Storage Facility
207	C-752-A Environmental Restoration Waste Storage Building
208	C-746-U Solid Waste Contained Landfill

* SWMU 3 was issued only a post-closure permit, was not permitted for construction and operation, and was not an engineered hazardous waste landfill.

Appendix A-4

Solid Waste Management Units or Areas of Concern that have SWMU Assessment Reports
Under Review by the Cabinet

SWMU/AOC	DESCRIPTION
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Appendix A-5

Burial Grounds Operable Unit
BGOU Remedial

SWMU/AOC	DESCRIPTION
2	C-749 Uranium Burial Ground
3	C-404 Low-Level Radioactive Waste Burial Ground
4	C-747 Contaminated Burial Ground
5	C-746-F Classified Burial Ground
6	C-747-B Burial Area
7	C-747-A Burial Ground
9	C-746-S Residential Landfill
10	C-746-T Inert Landfill
30	C-747-A Burn Area
145	Residential/Inert Landfill Borrow Area (P-Landfill)

Appendix A-5

Groundwater Operable Unit
Southwest Plume Sources

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Land Farm
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast

Appendix A-5

Groundwater Operable Unit
C-400 Action

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-5

Groundwater Operable Unit
Dissolved-Phase Plumes

SWMU/AOC	DESCRIPTION
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
210	Southwest Groundwater Plume

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Decontamination & Decommissioning Operable Unit
Inactive Facilities (C-410 D&D)

SWMU/AOC	DESCRIPTION
41	C-410-C Neutralization Tank
478	C-410/420 Feed Plant
494	Ash Receiver Area in C-410/420
495	C-410-I Ash Receiver Shed
496	C-410 Fluorine/Hydrogen Filters (Northeast Mezzanine)
497	C-410/420 F ₂ Cell Neutralization Room Vats
498	C-410/420 Sump at Column D&E – 1&2
499	C-410/420 Sump at Column H-9&10
500	C-410/420 Sump at Column U-10&11
501	C-410/420 UF ₆ Scale Pit Sumps A&B
502	C-410/420 Sump at Column U-9
503	C-410/420 Sump at Column G-1
504	C-410/420 Sump at Column L-10
505	C-410/420 Sump at Column A-3N
506	C-410/420 Sump at Column Wa-9
507	C-410/420 Condensate Tank Pit
508	C-410/420 Settling Basin
509	C-410/420 Drain Pit
510	C-410/420 Sump at Column P&Q-2
511	C-410/420 Sump at Column Q&R-2
512	C-410/420 Sump at Column R-2
513	C-411 Cell Maintenance Room Sump Pit

Appendix A-5

GDP Decontamination & Decommissioning Operable Unit
GDP D&D

SWMU/AOC	DESCRIPTION
28	C-712 Laboratory Equalization Tank
33	C-728 Motor Cleaning Facility
38	C-615 Sewage Treatment Plan
42	C-616 Chromate Reduction Facility
70	C-333-A Vaporizer
71	C-337-A Vaporizer
82	C-531 Electric Switchyard
83	C-533 Electric Switchyard
84	C-535 Electric Switchyard
85	C-537 Electric Switchyard
86	C-631 Pumphouse and Cooling Tower
87	C-633 Pumphouse and Cooling Tower
88	C-635 Pumphouse and Cooling Tower
89	C-637 Pumphouse and Cooling Tower
98	C-400 Basement Sump
137	C-746-A Inactive PCB Transformer Sump Area
159	C-746-H3 Storage Pad
164	KPDES Outfall Ditch 017 Flume – Soil Backfill
167	C-720 Whiteroom Sump
172	C-726 Sandblasting Facility
178	C-724-A Paint Spray Booth
179	Plant Sanitary Sewer System
192	C-710 Acid Interceptor Pit
203	C-400 Discard Waste System
209	C-720 Compressor Shop Pit Sump
463	C-746-A East End Smelter
482	C-415 Feed Plant Storage Building

Appendix A-5

GDP Decontamination & Decommissioning Operable Unit
DUF₆

SWMU/AOC	DESCRIPTION
183	McGraw UST
193	McGraw Construction Facilities (Southside Cylinder Yards)
194	McGraw Construction Facilities (Southside)
536	Concrete Truck Washout Area

Appendix A-5

Soils Operable Unit
Soils Remedial

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
13	C-746-P Clean Scrap Yard
14	C-746-E Contaminated Scrap Yard
15	C-746-C Scrap Yard
19	C-410-B HF Neutralization Lagoon
26	C-400 to C-404 Underground Transfer Line
27	C-722 Acid Neutralization Tank
56	C-540-A PCB Waste Staging Area
57	C-541-A PCB Waste Staging Area
76	C-632-B Sulfuric Acid Storage Tank
77	C-634-B Sulfuric Acid Storage Tank
80	C-540-A PCB Spill Site
81	C-541-A PCB Spill Site
99B	C-745 Kellogg Building Site – Septic Tank/Leach Field
138	C-100 Southside Berm
153	C-331 PCB Soil Contamination (West)
156	C-310 PCB Soil Contamination (West Side)
158	Chilled-Water System Leak Site
160	C-745 Cylinder Yard Spoils (PCB Soils)
163	C-304 Building/HVAC Piping System (Soil Backfill)
165	C-616-L Pipeline and Vault Soil Contamination
169	C-410-E HF Vent Surge Protection Tank
170	C-729 Acetylene Building Drain Pits
180	Outdoor Firing Range (WKWMA)
181	Outdoor Firing Range (PGDP)
194	McGraw Construction Facilities (Southside)
195	Curlee Road Contaminated Soil Mounds
196	C-746-A Septic System
200	Soil Contamination South of TSCA Waste Storage Facility
204	Dykes Road Historical Staging Area
211A	C-720 TCE Spill Site Northeast
212	C-745-A Radiological Contamination Area
213	OS-02
214	OS-03
215	OS-04
216	OS-05
217	OS-06
219	OS-08
221	OS-10
222	OS-11

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Soils Operable Unit
Soils Remedial

SWMU/AOC	DESCRIPTION
224	OS-13
225A	OS-14
225B	Contaminated Soil Area near C-533-1 DMSA OS-14
227	OS-16
228	OS-17
229	OS-18
486	Rubble Pile WKWMA
487	Rubble Pile WKWMA
488	PCB Contamination Area by the C-410 Trailer Complex
489	Septic Tank North of C-710 Laboratory
492	Contaminated Soil Area Near Outfall 010
493	Concrete Rubble Piles Near Outfall 001
517	Rubble and Debris Erosion Control Fill Area
518	Field South of C-746-P1 Clean Scrap Yard
520	Scrap Material West of C-746-A
531	Aluminum Slag Reacting Area (C-746-H4) near the C-746-A Facility
541	Contaminated Soil Area South of Outfall 011
561	Soil Pile I
562	Soil Piles C, D, E, F, G, H, J, K and P in subunit 1 north of Soil Pile I on the west bank of Little Bayou Creek
563	Soil Piles 20, CC and BW in subunit 4 north of Outfall 012 west of Little Bayou Creek
564	Soil Pile AT in subunit 5 that consists of three soil areas on the east side of the North-South Diversion Ditch north of the P-, S- & T-Landfills
565	Rubble Area KY-19 (along Bayou Creek north of C-611 Water Treatment Plant
567	Soil Pile K013 near Outfall 013, West of Little Bayou Creek

Appendix A-5

Surface Water Operable Unit
Remedial Action

SWMU/AOC	DESCRIPTION
59	N-S Diversion Ditch (Inside)
64	Little Bayou Creek
65	Bayou Creek
93	Concrete Disposal Area East of Plant Security Area
105	Concrete Rubble Pile (3)
106	Concrete Rubble Pile (4)
107	Concrete Rubble Pile (5)
108	Concrete Rubble Pile (6)
109	Concrete Rubble Pile (7)
113	Concrete Rubble Pile (11)
129	Concrete Rubble Pile (27)
175	Concrete Rubble Pile (28)
185	C-611-4 Horseshoe Lagoon (includes KPDES 014)
199	Bayou Creek Monitoring Station
205	Eastern Portion of Yellow Water Line
549	Dirt/Concrete Rubble Pile near Outfall 008
550	Concrete Culvert Sections Located on the West Bank of the Ditch Leading to Outfall 001

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Surface Water Operable Unit
Removal Action

SWMU/AOC	DESCRIPTION
58	N-S Diversion Ditch (Outside) (includes KPDES 003)
60	C-375-E2 Effluent Ditch (KPDES 002)
61	C-375-E5 Effluent Ditch (KPDES 013)
62	C-375-S6 SW Ditch (KPDES 009)
63	C-375-W7 Oil Skimmer Ditch (KPDES 008 and KPDES 004)
66	C-375-E3 Effluent Ditch (KPDES 010)
67	C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 011)
68	C-375-W8 Effluent Ditch (KPDES 015)
69	C-375-W9 Effluent Ditch (KPDES 001)
92	Fill area for dirt from the C-420 PCB Spill Site
97	C-601 Diesel Spill
102A	Plant Storm Sewer – between the south side of the C-400 Building and Outfall 008
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
168	KPDES Outfall Ditch 012
526	Internal Plant Drainage Ditches (includes KPDES 016)

Appendix A-5

Final Comprehensive Site Operable Unit

SWMU/AOC	DESCRIPTION
8	C-746-K Inactive Sanitary Landfill
91	UF ₆ Cylinder Drop Test Pit
100	Fire Training Area

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Post-Gaseous Diffusion Plant (GDP) Shutdown
GDP Groundwater Sources Operable Unit (C-400 Residuals and Remaining Sources)

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-5

Post-Gaseous Diffusion Plant (GDP) Shutdown
GDP Lagoons and Ditches Operable Unit

SWMU/AOC	DESCRIPTION
17	C-616-E Sludge Lagoon
18	C-616-F Full-Flow Lagoon
21	C-611-W Sludge Lagoon
22	C-611-Y Overflow Lagoon (includes KPDES 006)
23	C-611-V Lagoon (includes KPDES 005)
171	C-617-A Lagoons

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Additional Burial Ground Sources Operable Unit

SWMU/AOC	DESCRIPTION
472	C-746-B Pad
520	Scrap Material West of C-746-A

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Soils and Slabs Operable Unit

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
16	C-746-D Classified Scrap Yard
20	C-410-E Emergency Holding Pond slab and underlying soils
28	C-712 Laboratory Equalization Tank slab and underlying soils
31	C-720 Compressor Pit Water Storage Tank slab and underlying soils
32	C-728 Clean Waste Oil Tanks slab and underlying soils
33	C-728 Motor Cleaning Facility slab and underlying soils
38	C-615 Sewage Treatment Plant slab and underlying soils
40	C-403 Neutralization Tank slab and underlying soils
41	C-410-C Neutralization Tank slab and underlying soils
42	C-616 Chromate Reduction Facility slab and underlying soils
47	C-400 Technetium Storage Tank Area
55	C-405 Incinerator Building slab and underlying soils
70	C-333-A Vaporizer slab and underlying soils
71	C-337-A Vaporizer slab and underlying soils
74	C-340 PCB Transformer Spill Site
75	C-633 PCB Spill Site
77	C-643-B Sulfuric Acid Storage Tank slab and underlying soils
78	C-420 PCB Spill Site
79	C-611 PCB Spill Site
82	C-531 Switchyard slab and underlying soils
83	C-533 Switchyard slab and underlying soils
84	C-535 Switchyard slab and underlying soils
85	C-537 Switchyard slab and underlying soils
86	C-631 Pumphouse and Cooling Tower slab and underlying soils
87	C-633 Pumphouse and Cooling Tower slab and underlying soils
88	C-635 Pumphouse and Cooling Tower slab and underlying soils
89	C-637 Pumphouse and Cooling Tower slab and underlying soils
98	C-400 Basement Sump slab and underlying soils
99A	C-745 Kellogg Building Site - Cylinder Yard
135	C-333 PCB Soil Contamination (North Side)
137	C-746-A Inactive PCB Transformer Sump Area slab and underlying soils
154	C-331 PCB Soil Contamination (Southeast)
155	C-333 PCB Soil Contamination (West)
159	C-747-H3 Storage Pad slab and underlying soils
161	C-743-T-01 Trailer Site (Soil Backfill)
162	C-617-A Sanitary Water Line (Soil Backfill)
166	C-100 Trailer Complex Soil Contamination (East Side)
167	C-720 White Room Sump slab and underlying soils
172	C-726 Sandblasting Facility slab and underlying soils
176	C-331 RCW Leak Northwest Side

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Soils and Slabs Operable Unit

177	C-331 RCW Leak East Side
178	C-724-A Paint Spray Booth slab and underlying soils
179	Plant Sanitary Sewer System
192	C-710 Acid Interceptor Pit slab and underlying soils
198	C-410-D Area Soil Contamination slab and underlying soils
203	C-400 Discard Waste System slab and underlying soils
209	C-720 Compressor Shop Pit Sump slab and underlying soils
211B	C-720 TCE Spill Site Southeast
218	OS-07 slab and underlying soils
220	OS-09 slab and underlying soils
223	OS-12 slab and underlying soils
226	OS-15
463	C-746-A East End Smelter slab and underlying soils
464	C-746-A West End Smelter building slab and underlying soils
469	C-745-J Yard
470	C-746-V Yard
474	West of Vortec Site
477	C-340 Metals Plant building slab and underlying soils
478	C-410/420 Feed Plant building slab and underlying soils
480	C-402 Lime House building slab and underlying soils
482	C-415 Feed Plant Storage Building slab and underlying soils
483	Nitrogen Generating Facilities slab and underlying soils
494	Ash Receiver Area in C-410/420 slab and underlying soils
495	C-410-I Ash Receiver Shed building slab and underlying soils
497	C-410/420 F ₂ Cell Neutralization Room Vats slab and underlying soils
498	C-410/420 Sump at Columns D&E – 1&2 slab and underlying soils
499	C-410/420 Sump at Column H-9&10 slab and underlying soils
500	C-410/420 Sump at Column U-10&11 slab and underlying soils
501	C-410/420 UF ₆ Scale Pit Sumps A&B slab and underlying soils
502	C-410/420 Sump at Column U-9 slab and underlying soils
503	C-410/420 Sump at Column G-1 slab and underlying soils
504	C-410/420 Sump at Column L-10 slab and underlying soils
505	C-410/420 Sump at Column A-3N slab and underlying soils
506	C-410/420 Sump at Column Wa-9 slab and underlying soils
507	C-410/420 Condensate Tank Pit slab and underlying soils
508	C-410/420 Settling Basin slab and underlying soils
509	C-410/420 Drain Pit slab and underlying soils
510	C-410/420 Sump at Column P&Q-2 slab and underlying soils
511	C-410/420 Sump at Column Q&R-2 slab and underlying soils
512	C-410/420 Sump at Column R-2 slab and underlying soils
513	C-411 Cell Maintenance Room Sump Pit slab and underlying soils
522	C-340 Work Pit at Ground Floor Level (B-7 to B-9) slab and underlying soils

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Soils and Slabs Operable Unit

523	C-340 Metals Plant Pit Ground Floor (F-6 to F-11) slab and underlying soils
524	C-340 Pickling System Sump (B-10 to B-11) slab and underlying soils
529	C-340 Powder Plant Sump at Ground Floor Level slab and underlying soils

Appendix A-6

Solid Waste Management Units Addressed by Records of Decision

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
2	C-749 Uranium Burial Ground
8	C-746-K Inactive Sanitary Landfill
11	C-400 TCE Leak Site
59	N-S Diversion Ditch (Inside)
91	UF ₆ Cylinder Drop Test Pit
100	Fire Training Area
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-7

Solid Waste Management Units that will be Investigated and Remediated by the U.S. Army
Corps of Engineers (COE)

SWMU/AOC	DESCRIPTION
94	KOW Trickling Filter and Leach Field
95	KOW Burn Area
157	KOW Toluene Spill Area
182	Western Portion of Yellow Waterline

APPENDIX B

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

I. RFI Workplan Requirements

The Permittee shall prepare a RCRA Facility Investigation (RFI) Workplan that meets the requirements of Part II of this document and the RFI Guidance, EPA-530/SW-89-031. This Workplan shall also include the development of the following plans, which shall be prepared concurrently:

- A. Project Management Plan. The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.
- B. Sampling and Analysis Plan(s). The Permittee shall prepare a plan to document all monitoring procedures: field sampling, sampling procedures, and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites: A Methods Manual; Volume II; Available Sampling Methods, EPA-600/4-84-076, or EPA Region IV Engineering Support Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by the Director. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.
 1. Sampling Strategy
 - a. Selecting appropriate sampling locations, depths, etc.;
 - b. Obtaining all necessary ancillary data;
 - c. Determining conditions under which sampling should be conducted;
 - d. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, sub-surface gas);

- e. Determining which parameters are to be measured and where;
 - f. Selecting the frequency of sampling and length of sampling period;
 - g. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.
2. Sampling Procedures
- a. Documenting field sampling operations and procedures, including:
 - i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);
 - ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
 - iii. Documentation of specific sample preservation method;
 - iv. Calibration of field instruments;
 - v. Submission of field-biased blanks, where appropriate;
 - vi. Potential interferences present at the facility;
 - vii. Construction materials and techniques, associated with monitoring wells and piezometers;
 - viii. Field equipment listing and sampling containers;
 - ix. Sampling order; and
 - x. Decontamination procedures.
 - b. Selecting appropriate sample containers;
 - c. Sampling preservation; and
 - d. Chain-of-custody, including:
 - i. Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

- ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.
- 3. Sample Analysis. Sample analysis shall be conducted in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (third edition and/or most recent update). The sample analysis section of the Sampling and Analysis Plan shall specify the following:
 - a. Chain-of-custody procedures, including:
 - i. Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
 - iii. Specification of laboratory sample custody procedures for sample handling, storage and disbursement for analysis.
 - b. Sample storage;
 - c. Sample preparation methods;
 - d. Analytical Procedures, including:
 - i. Scope and application of the procedure;
 - ii. Sample matrix;
 - iii. Potential interferences;
 - iv. Precision and accuracy of the methodology; and
 - v. Method detection limits.
 - e. Calibration procedures and frequency;
 - f. Data reduction, validation, and reporting;
 - g. Internal quality control checks, laboratory performance and systems audits and frequency, including:
 - i. Method blank(s);
 - ii. Laboratory control sample(s);

- iii. Calibration check sample(s);
 - iv. Replicate sample(s);
 - v. Matrix-spiked sample(s);
 - vi. Control charts;
 - vii. Surrogate samples;
 - viii. Zero and span gases; and
 - ix. Reagent quality control checks.
 - h. Preventive maintenance procedures and schedules;
 - i. Corrective action (for laboratory problems); and
 - j. Turn-around time.
- C. Data Management Plan. The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.
- 1. Data Record. The data record shall include the following:
 - a. Unique sample or field measurement code;
 - b. Sampling or field measurement location and sample or measurement type;
 - c. Sampling or field measurement raw data;
 - d. Laboratory analysis ID number;
 - e. Property or component measures; and
 - f. Result of analysis (e.g., concentration).
 - 2. Tabular Displays. The following data shall be presented in tabular displays:
 - a. Unsorted (raw) data;
 - b. Results for each media, or for each constituent monitored;
 - c. Data reduction for statistical analysis, as appropriate;
 - d. Sorting of data by potential stratification factors (e.g., location, soil layer, topograph); and

- e. Summary data.
- 3. Graphical Displays. The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transits, three dimensional graphs, etc.)
 - a. Display sampling location and sampling grid;
 - b. Indicate boundaries of sampling area, and area where more data are required;
 - c. Display geographical extent of contamination;
 - d. Illustrate changed in concentration in relation to distances from the source, time, depth or other parameters; and
 - e. Indicate features affecting inter-media transport and show potential receptors.

II. RCRA Facility Investigation (RFI) Requirements

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors. The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in a RCRA Part B permit application may be referenced as appropriate. All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

- A. Environmental Setting. The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways, and areas of releases of hazardous constituents from Solid Waste Management Units.
 - 1. Hydrogeology. The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:
 - a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

- i. Regional and facility-specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;
 - ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);
 - iii. Depositional history;
 - iv. Regional and facility-specific groundwater flow patterns;
 - v. Identification and characterization of areas and amounts of recharge and discharge.
- b. An analysis of any topographic features that might influence the groundwater flow system.
- c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
- i. Hydraulic conductivity and porosity (total and effective);
 - ii. Lithology, grain size, sorting, degree of cementation;
 - iii. An interpretation of hydraulic interconnections between saturated zones; and
 - iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).
- d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:
- i. Water-level contour and/or potentiometric maps;
 - ii. Hydrologic cross-sections showing vertical gradients;

- iii. The flow system, including the vertical and horizontal components of flow; and
 - iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.
 - e. A description of man-made influences that may affect the hydrology of the site, identifying:
 - i. Local water supply and production wells with an approximate schedule of pumping; and
 - ii. Man-made hydraulic structures (pipelines, French drains, ditches, etc.).
- 2. Soils. The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:
 - a. Surface soil distribution;
 - b. Soil profile, including ASTM classification of soils;
 - c. Transects of soil stratigraphy;
 - d. Hydraulic conductivity (saturated and unsaturated);
 - e. Relative permeability;
 - f. Bulk density;
 - g. Porosity;
 - h. Soil sorption capacity;
 - i. Cation exchange capacity (CEC);
 - j. Soil organic content;
 - k. Soil pH;
 - l. Particle size distribution;
 - m. Depth of water table;
 - n. Moisture content;
 - o. Effect of stratification on unsaturated flow;
 - p. Infiltration;
 - q. Evapotranspiration;
 - r. Storage capacity;

- s. Vertical flow rate; and
 - t. Mineral content.
3. Surface Water and Sediment. The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:
- a. Description of the temporal and permanent surface water bodies including:
 - i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
 - ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;
 - iii. For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100 year event), discharge point(s), and general contents;
 - iv. Drainage patterns; and
 - v. Evapotranspiration.
 - b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.
 - c. Description of sediment characteristics including:
 - i. Deposition area;
 - ii. Thickness profile; and
 - iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.).
4. Air. The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

- a. A description of the following parameters:
 - i. Annual and monthly rainfall averages;
 - ii. Monthly temperature averages and extremes;
 - iii. Wind speed and direction;
 - iv. Relative humidity/dew point;
 - v. Atmospheric pressure;
 - vi. Evaporation data;
 - vii. Development of inversions; and
 - viii. Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence (i.e., hurricanes).
- b. A description of topographic and man-made features which affect air flow and emission patterns, including:
 - i. Ridges, hills, or mountain areas;
 - ii. Canyons or valleys;
 - iii. Surface water bodies (e.g., rivers, lakes, bays, etc.); and
 - iv. Buildings.

B. Source Characterization. For those sources from which releases of hazardous constituents have been detected, the Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that it is possible without undue safety risks, including: type, quantity, physical form, disposition (containment or nature of deposits), and facility characteristics affecting release (e.g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

- 1. Unit/Disposal Area Characteristics:
 - a. Location of unit/disposal area;
 - b. Type of unit/disposal area;
 - c. Design features;
 - d. Operating practices (past and present);
 - e. Period of operation;
 - f. Age of unit/disposal area;

- g. General physical conditions; and
 - h. Method used to close the unit/disposal area.
2. Waste Characteristics:
- a. Type of wastes placed in the unit;
 - i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
 - ii. Quantity; and
 - iii. Chemical composition.
 - b. Physical and chemical characteristics such as:
 - i. Physical form (solid, liquid, gas);
 - ii. Physical description (e.g., powder, oily sludge);
 - iii. Temperature;
 - iv. pH;
 - v. General chemical class (e.g., acid, base, solvent);
 - vi. Molecular weight;
 - vii. Density;
 - viii. Boiling point;
 - ix. Viscosity;
 - x. Solubility in water;
 - xi. Cohesiveness of the waste; and
 - xii. Vapor pressure.
 - c. Migration and dispersal characteristics of the waste such as:
 - i. Sorption capability;
 - ii. Biodegradability, concentration, biotransformation;
 - iii. Photo-degradation rates;
 - iv. Hydrolysis rates; and
 - v. Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents. The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination. The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

- a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from or within the facility;
- b. The horizontal and vertical direction of contamination movement;
- c. The velocity of contaminant movement.
- d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);
- e. An evaluation of factors influencing the plume movement; and
- f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination. The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

- a. A description of the vertical and horizontal extent of the contamination;
- b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume.

This may include contaminant solubility, speciation, absorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

- c. Specific contaminant concentrations;
 - d. The velocity and direction of contaminant movement; and
 - e. An extrapolation of future contaminant movement.
3. Surface Water and Sediment Contamination. The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility. The investigation may include, but not be limited to, the following information:
- a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;
 - b. The horizontal and vertical direction of contaminant movement;
 - c. The contaminant velocity;
 - d. An evaluation of the physical, biological, and chemical factors influencing contaminant movement;
 - e. An extrapolation of future contaminant movement; and
 - f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.
4. Air Contamination. The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:
- a. A description of the horizontal and vertical direction and velocity of contaminant movement;
 - b. The rate and amount of the release; and

- c. The chemical and physical composition of the contaminant(s) release, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors. The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

- 1. Current local uses and planned future uses of groundwater:
 - a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and
 - b. Location of groundwater users, to include withdrawal and discharge wells, within one mile of the impacted area.

The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted for each item.

- 2. Current local uses and planned future uses of surface waters directly impacted by the facility:
 - a. Domestic and municipal (e.g., potable and lawn/gardening watering);
 - b. Recreational (e.g., swimming, fishing);
 - c. Agricultural;
 - d. Industrial; and
 - e. Environmental (e.g., fish and wildlife propagation).
- 3. Human use of or access to the facility and adjacent lands, including but not limited to:
 - a. Recreation;
 - b. Hunting;
 - c. Residential;
 - d. Commercial; and
 - e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on , adjacent to, or affected by the facility.
5. A general description of the ecology within the area adjacent to the facility.
6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.
7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX C

CORRECTIVE MEASURES STUDY (CMS) OUTLINE

- I. Identification and Development of the Corrective Measure Alternatives
 - A. Description of Current Situation
 - B. Establishment of Corrective Action Objectives
 - C. Screening of Corrective Measures Technologies
 - D. Identification of the Corrective Measure Alternatives
- II. Evaluation of the Corrective Measure Alternatives
 - A. Technical/Environmental/Human Health/Institutional
 - B. Cost Estimate
- III. Justification and Recommendation of the Corrective Measure or Measures
 - A. Technical
 - B. Environmental
 - C. Human Health
- IV. Reports
 - A. Draft
 - B. Final
 - C. Public Review and Final Selection of Corrective Measure

APPENDIX C
CORRECTIVE MEASURES STUDY (CMS)

- I. Identification and Development of the Corrective Measures Alternatives. Based on the results of the RCRA Facility Investigation and consideration of the identified potential corrective measure technologies, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment, and/or other remediation of the contamination based on the objectives established for the corrective action.
 - A. Description of Current Situation. The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.
 - B. Establishment of Corrective Action Objectives. The Permittee shall propose facility-specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable Federal Statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 401 KAR 34:060, Section 11.
 - C. Screening of Corrective Measure Technologies. The Permittee shall review the results of the RFI and assess the technologies which are applicable at the facility. The Permittee shall screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliable, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics. Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.
 2. Waste Characteristics. Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).
 3. Technology Limitations. During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.
- D. Identification of the Corrective Measure Alternatives. The Permittee shall develop the Corrective Measure alternatives based on the corrective action objectives and analysis of potential corrective measure technologies. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternatives. The alternatives developed should represent a workable number of option(s) that each appears to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies.
- II. Evaluation of the Corrective Measure Alternatives. The Permittee shall describe each corrective measure alternative that passes through the initial screening and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health, and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

- A. Technical/Environmental/Human Health/Institutional. The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:
1. Technical. The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability, and safety.
 - a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:
 - i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and
 - ii. Useful life is defined as the length of time the level of desired effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, will deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.
 - b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

- i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operating and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and
 - ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Respondent should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.
- c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:
- i. Constructability is determined by conditions both internal and external to the facility conditions and includes such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and
 - ii. Time has two components that shall be addressed: the time it takes to implement a corrective measure and the time it takes to actually see beneficial

results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

- d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.
2. Environmental. The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short- and long-term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.
3. Human Health. The Permittee shall assess each alternative in terms of the extent to which it mitigates short- and long-term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the concentrations and characteristics of the contaminants on-site, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to the Division.
4. Institutional. The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, state, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative. If the selected remedy is capping and closure in place, a notation must be made in the land deed.

- B. Cost Estimate. The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.
1. Capital costs consist of direct (construction) and indirect (non-construction and overhead) costs.
 - a. Direct capital costs include:
 - i. Construction Costs. Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.
 - ii. Equipment Costs. Costs of treatment, containment, disposal, and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;
 - iii. Land and Site-Development Costs. Expenses associated with purchase of land and development of existing property; and
 - iv. Buildings and Services Costs. Costs of process and non-process buildings, utility connections, purchased services, and disposal costs.
 - b. Indirect capital costs include:
 - i. Engineering Expenses. Costs of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;
 - ii. Legal Fees and License or Permit Costs. Administrative and technical costs necessary to obtain licenses and permits for installation and operation;
 - iii. Land and Site Development Costs. Expenses associated with purchase of land and development of existing property; and
 - iv. Buildings and Services Costs. Cost of process and non-process buildings, utility connections, purchased services, and disposal costs.

- v. Startup and Shakedown Costs. Costs incurred during corrective measure startup; and
 - vi. Contingency Allowances. Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.
2. Operation and maintenance costs are post-constructive costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:
- a. Operating labor costs. Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-closure operations;
 - b. Maintenance materials and labor costs. Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;
 - c. Auxiliary materials and energy. Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;
 - d. Purchased services. Sampling costs, laboratory fees, and professional fees for which the need can be predicted;
 - e. Disposal and treatment costs. Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operations;
 - f. Administrative costs. Costs associated with administration of corrective measure operation and maintenance not included under other categories;
 - g. Insurance, taxes, and licensing costs. Costs of such items as liability and sudden accident insurance; real estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;
 - h. Maintenance reserve and contingency funds. Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

- i. Other costs. Items that do not fit any of the above categories.

III. Justification and Recommendation of the Corrective Measure or Measures. The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Director will select the corrective measure alternative or alternatives to be implemented based on the results obtained from work completed under Sections II and III. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance: Corrective measure(s) which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;
2. Reliability: Corrective measure(s) which do not require frequent or complex operation and maintenance activities and that have proved effective under waste and facility conditions similar to those anticipated will be given preference;
3. Implementability: Corrective measure(s) which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and
4. Safety: Corrective measure(s) which pose the least threat to the safety of nearby residents and the environment as well as workers during implementation will be preferred.

B. Human Health. The corrective measure(s) must comply with existing Kentucky criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental. The corrective measure(s) posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

IV. Reports. The Permittee shall prepare a Corrective Measure Study Report presenting the results obtained from Section I through III and recommending a

corrective measure alternative. Copies of the preliminary report shall be provided by the Permittee to the Director for review and approval.

A. Draft. The Report shall at a minimum include:

1. A description of the facility including site topographic map and preliminary layouts;
2. A summary of the corrective measure(s) and rationale for selection;
 - a. Description of the corrective measure(s) and rationale for selection;
 - b. Performance expectations;
 - c. Preliminary design criteria and rationale;
 - d. General operation and maintenance requirements; and
 - e. Long-term monitoring requirements.
3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure(s);
 - a. Field studies (groundwater, surface water, soil, air); and
 - b. Laboratory studies (bench scale, pick scale).
4. Design and implementation precautions;
 - a. Special technical problems;
 - b. Additional engineering data required;
 - c. Permits and regulatory requirements;
 - d. Access, easements, right-of-way;
 - e. Health and safety requirements; and
 - f. Community relations activities.
5. Cost estimates and schedules;
 - a. Capitol cost estimate;
 - b. Operation and maintenance cost estimate; and
 - c. Project schedule (design, construction, operation).

Copies of the draft shall be provided by the Permittee to the Director.

B. Final. The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the Division on the Draft

Corrective Measure Study Report. The report shall become final upon approval by the Director.

- C. Public Review and Final Selection of Corrective Measures. Upon receipt of the Final Corrective Measure Study Report, the Division shall announce its availability to the public for review and comment. At the end of the comment period, the Director shall review the comments and then inform the Permittee of the final decision as to the approved Corrective Measures to be implemented.

SCHEDULE OF COMPLIANCE

Schedule of Compliance	Due Date
Notification of newly identified SWMUs and AOCs	Within fifteen (15) calendar days of discovery
SWMU Assessment Report	Within ninety (90) calendar days of notification
Notification for newly discovered releases at previously identified SWMUs and AOCs	Within fifteen (15) calendar days of discovery
RFI Work Plan	Within one hundred and eighty (180) calendar days after receipt of notification by the Manager which SWMUs or AOCs require an RFI
RFI Progress Reports****	Quarterly, beginning ninety (90) calendar days from the start date specified by the Manager*
Draft RFI Report	In accordance with the approved RFI Work Plan
Final RFI Report	Within sixty (60) calendar days after receipt of the Manager's comments on the draft RFI report
Interim Measures Work Plan	Within ninety (90) calendar days of notification by the Manager
Interim Measures Progress Reports****	Quarterly, beginning 90 days from start date specified by the Manager**
Interim Measure Report	Within ninety (90) calendar days of completion
CMS Plan	Within one hundred and eighty (180) calendar days of notification by the Manager that a CMS is needed
Draft CMS Report	In accordance with the schedule defined in the approved CMS plan
Final CMS Report	Within sixty (60) calendar days of the Manager's comments on draft CMS report
Imminent Hazard Report	Orally within 2 hours; written within fifteen (15) calendar days
Waste Minimization Certification	Annually from effective date of permit
Vent Monitoring/Inspection Scheduled and Procedures	Within 30 calendar days prior to anticipated process start-up
Vent Emissions Non-Compliance and Unrepaired Equipment Leak Reports	Semi-annually beginning six (6) months after the effective date of the permit

SCHEDULE OF COMPLIANCE

Schedule of Compliance	Due Date
GWOU (Southwest Plume Sources – SWMU 1) D1 Remedial Action Completion Report	3/31/2016
GWOU (Southwest Plume Sources – SWMUs 211 A&B) D1 Remedial Design Report	8/4/2016 (If long-term monitoring is the remedy selected)
GWOU (Southwest Plume Sources – SWMUs 211 A&B) D1 Remedial Action Work Plan	9/3/2016 (If long-term monitoring is the remedy selected)
GWOU (C-400 Phase IIb Treatability Study) D1 Treatability Study Report	181 calendar days from completion of TS data collection
GWOU (C-400 Phase IIb Treatability Study) D1 Revised Proposed Plan	110 calendar days after approval of the TS Report
GWOU (C-400 Phase IIb Treatability Study) D1 Record of Decision	30 days after close of public comment period on the Proposed Plan
Groundwater Operable Unit D1 Interim Remedial Action Completion Report	9/30/2032
D&D OU (Disposition of Inactive PGDP Facilities) D1 C-410 Completion Notification Letter	6/30/2015
Waste Disposal Options D1 Proposed Plan	45 days after approval of the WDA Feasibility Study
Waste Disposal Options D1 Record of Decision	30 days after close of the public comment period on the Proposed Plan
Waste Disposal Options D1 Remedial Design Work Plan	60 days after Record of Decision signature
Surface Water Operable Unit D1 Remedial Action Completion Report	9/30/2032
Soils Operable Unit (Remedial Action 2) D1 Remedial Investigation Report	8/31/2015

Schedule of Compliance	Due Date
Soils Operable Unit D1 Remedial Action Completion Report	9/30/2030
BGOU (SWMUs 5 and 6 Remedial Action) D1 Record of Decision	30 days after close of the public comment period on the Proposed Plan
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Design Work Plan	60 days after Record of Decision signature
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Design Report	1 year after submittal of the Remedial Design Work Plan
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Action Work Plan	30 days after submittal of the Remedial Design Report
BGOU (SWMUs 5 and 6 Remedial Action) Field Start	90 days after approval of the Remedial Action Work Plan
BGOU (SWMU 4 Remedial Action) D1 Remedial Investigation Report Addendum	7/5/2016
BGOU (SWMU 4 Remedial Action) D1 Feasibility Study	60 days after EPA and KY approval of the Remedial Investigation Report
Burial Grounds Operable Unit D1 Remedial Action Completion Report	9/30/2031

The above reports must be signed and certified in accordance with 401 KAR 38:070, Section 7.

- * This applies to Work Plan execution that requires more than one hundred eighty (180) calendar days.
- ** This applies to Work Plan execution that requires more than one year.
- *** This requirement may be satisfied by the Permittee submission of FFA semi-annual reports (April 30 and October 30).

APPENDIX E

**MODIFICATION OF THE CORRECTIVE ACTION
SCHEDULE OF COMPLIANCE**

APPENDIX E

MODIFICATION OF THE CORRECTIVE ACTION

SCHEDULE OF COMPLIANCE

- I. If at any time the Manager determines that modification of the Corrective Action Schedule of Compliance is necessary, the Manager may initiate a modification to the Schedule of Compliance according to this procedure. If the Manager initiates a modification, he shall:
 - A. Notify the Permittee in writing of the proposed modification and the date by which comments on the proposed modification must be received; and
 - B. Publish a notice of the proposed modification in a locally distributed newspaper, mail a notice to all persons on the facility mailing list, and place a notice in the facility's information repository (i.e., a central source of all pertinent documents concerning the remedial action, usually maintained at the facility or some other public place, such as a public library, that is accessible to the public) if one is required.
 1. If the Manager receives no written comment on the proposed modification, the modification shall become effective five (5) calendar days after the close of the comment period.
 2. If the Manager receives written comment on the proposed modification, the Director shall make a final determination concerning the modification after the end of the comment period.
 - C. Notify the Permittee in writing of the final decision.
 1. If no written comment was received, the Manager shall notify individuals on the facility mailing list in writing that the modification has become effective and shall place a copy of the modified Corrective Action Schedule of Compliance in the information repository, if a repository is required for the facility.
 2. If written comment was received, the Manager shall provide notice of the final modification decision in a locally distributed newspaper and place a copy of the modified Corrective Action Schedule of Compliance in the information repository, if a repository is required for the facility.

- II. Modifications to the Corrective Action Schedule of Compliance do not constitute a reissuance of the permit.
- III. At the discretion of the Manager, modifications to the Corrective Action Schedule of Compliance that are initiated by the Permittee may proceed as a Class 1 modification in accordance with 401 KAR 38:040, Section 3. Any modification of final compliance dates (e.g. Surface Water OU Remedial Action Completion Report) shall proceed as a Class 3 modification in accordance with 401 KAR 38:030, Section 2.

APPENDIX F

RECORDS OF DECISION (ROD) FOR OPERABLE UNITS

The Records of Decision for the specific Operable Units listed in the Table of Contents can be found in the Administrative Records for those projects at the following website:

<http://www.paducaheic.com/Default.aspx>.

FEDERAL FACILITY AGREEMENT
FOR THE
PADUCAH GASEOUS DIFFUSION PLANT

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THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV

AND

THE UNITED STATES DEPARTMENT OF ENERGY

AND

THE KENTUCKY NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
CABINET

IN THE MATTER OF:)
)
The U. S. Department) FEDERAL FACILITY AGREEMENT
of Energy's) UNDER SECTION 120 OF CERCLA
) AND SECTIONS 3004(u), 3004(v)
) AND 6001 OF RCRA, AND KRS
PADUCAH GASEOUS DIFFUSION PLANT) 224 SUBCHAPTER 46
)
)
_____) Docket No.

Based upon the information available to the Parties on the effective date of this FEDERAL FACILITY AGREEMENT (Agreement), and without trial or adjudication of any issues of fact or law, the Parties agree as follows:

INTRODUCTION

This Agreement directs the comprehensive remediation of the Paducah Gaseous Diffusion Plant (PGDP). It contains requirements for: (1) implementing investigations of known or potential releases of hazardous substances, pollutants or contaminants, or hazardous wastes or hazardous constituents, (2) selection and implementation of appropriate remedial and removal actions, and (3) establishing priorities for action and development of

schedules, consistent with the established priorities, goals and objectives of this Agreement. This Agreement delineates the relationship between its requirements and the requirements for corrective measures being conducted under Sections 3004(u) and 3004(v) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6924(u) and 6924(v), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), and KRS 224 Chapter 46, according to the conditions of PGDP's Federal Environmental Protection Agency RCRA Permit (the "HSWA" Permit) and Kentucky's Hazardous Waste Permit (collectively, the "RCRA Permits") and actions taken in accordance with a certain Administrative Consent Order dated November 23, 1988, (the "ACO"), pursuant to Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9620(e)(1), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499. It incorporates the site investigation process as begun at PGDP in accordance with the ACO issued November 1988 and the RCRA Permits, and addresses those releases included in the RCRA Permits and any newly discovered releases at or from units not identified in the RCRA Permits. This Agreement sets forth the CERCLA requirements to address releases of hazardous or radioactive substances or both not specifically regulated by RCRA and/or KRS 224 Chapter 46.

This Agreement governs the corrective/remedial action process from site investigation through site remediation and describes procedures for the Parties to set annual work priorities (including schedules and deadlines) for that process.

The Parties will coordinate the administrative and public participation processes prescribed by the various statutes (e.g., RCRA and CERCLA) governing the corrective/remedial action process at PGDP. Upon execution of this Agreement, the CERCLA ACO shall be terminated and the Parties agree that all DOE obligations and actions required by the CERCLA ACO are satisfied and complete.

This Agreement also consists of Appendices A through G. In the event of any inconsistency between this Agreement and its Appendices, this Agreement shall govern unless and until modified under Section XXXIX (Modification of Agreement) of this Agreement.

I. JURISDICTION

A. Each Party is entering into this Agreement pursuant to the following authorities:

1. The U. S. Environmental Protection Agency (EPA), Region IV, enters into those portions of this Agreement that relate to: (1) the remedial investigation/feasibility study (RI/FS) pursuant to Section 120(e)(1) of CERCLA; (2) the RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)

pursuant to RCRA Sections 3004(u), 3004(v), 3008(h) and 6001, 42 U.S.C. §§ 6924(u), 6924(v), 6428(h), and 6961;

2. EPA enters into those portions of this Agreement

that relate to: (1) interim and final remedial actions pursuant to Section 120(e)(2) of CERCLA; and (2) corrective measures implementation, including interim measures, pursuant to Sections 3004(u), 3004(v), 3008(h) and 6001 of RCRA;

3. The U. S. Department of Energy (DOE) enters into those portions of this Agreement that relate to: (1) the RI/FS pursuant to Section 120(e)(1) of CERCLA; (2) the RFI/CMS pursuant to Sections 3004(u), 3004(v), 3008(h) and 6001 of RCRA; (3) the National Environmental Policy Act, 42 U.S.C. § 4321; and (4) the Atomic Energy Act of 1954 (AEA), as amended, 42 U.S.C. § 2201;

4. DOE enters into those portions of this Agreement that relate to: (1) interim and final remedial actions pursuant to Section 120(e)(2) of CERCLA; (2) corrective measures implementation, including interim measures, pursuant to Sections 3004(u), 3004(v), 3008(h) and 6001 of RCRA; and (3) the AEA;

5. DOE will take all necessary actions in order to fully effectuate the terms of this Agreement, including undertaking response actions on the Site (as such term is hereinafter defined) in accordance with laws, standards, limitations, criteria, and requirements under Federal or Kentucky law to the extent consistent with CERCLA, RCRA and KRS 224 Chapter 46.

6. The Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) enters into this Agreement pursuant to Sections 107, 120(f) and 121(f) of CERCLA; Section 3006 of RCRA and the Kentucky Revised Statutes Sections 224.46-530 and 224.10-100. On April 26, 1996 at 61 Fed. Reg. 18,504, EPA, pursuant to RCRA Section 3006, gave Kentucky final authorization, effective June 25, 1996, to administer the Corrective Action portions of HSWA, specifically including 42 U.S.C. § 6924(u) and (v).

B. The National Priorities List (NPL) is promulgated under Section 105 of CERCLA, 42 U.S.C. § 9605 and at 40 C.F.R. Part 300. The Paducah Site was included by EPA on the Federal Agency Hazardous Waste Compliance Docket established under Section 120 of CERCLA, 42 U.S.C. § 9620, (See Federal Register February 12, 1988). EPA Region IV has evaluated the Paducah Site for inclusion on the NPL. The site was proposed for inclusion on the NPL in Federal Register May 10, 1993. The Site was listed on the NPL on May 31, 1994 at 59 Fed. Reg. 27,989. The Parties intend that this Agreement shall satisfy the requirements for an interagency agreement under Section 120 of CERCLA, 42 U.S.C. § 9620, for the Paducah Site.

II. DEFINITIONS

Except as provided below or otherwise explicitly stated in

this Agreement, the definitions provided in CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 (hereinafter the National Contingency Plan or NCP) and RCRA and its implementing regulations, as they may be amended, shall control the meaning of the terms used in this Agreement unless such terms are otherwise modified by the Parties. This Agreement references documents and terms required by DOE's RCRA Permits. Appendix A to this Agreement identifies those documents and their CERCLA equivalents. For the purposes of this Agreement and the work required herein, any and all references to the documents or terms identified in Appendix A shall use the CERCLA terminology to simplify use of terms (e.g.,: any reference to an RI shall also include a reference to an RFI).

In addition, the following definitions are used for purposes of this Agreement.

A. Additional Work shall mean any work agreed upon by the Parties under Section XIX (Additional Work) to this Agreement.

B. Atomic Energy Act (AEA) shall mean the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§ 2011, et seq.

C. Agreement shall mean this document and shall include all Appendices to this document referred to herein. All such Appendices shall be enforceable in accordance with Section

XLIV (Enforceability) of this Agreement.

D. Applicable Kentucky Laws shall include but not be limited to all laws determined to be applicable or relevant and appropriate requirements (ARARs) as described in Section 121(d) of CERCLA, 42 U.S.C. § 9621(d). It is recognized that in some instances in which this phrase is used, there may be no applicable Kentucky laws.

E. ARAR(s) shall mean "legally applicable" or "relevant and appropriate", standards, requirements, criteria, or limitations as those terms are used in Section 121(d)(2)(A) of CERCLA, 42 U.S.C. § 9621(d)(2)(A).

F. Areas of Concern (AOC) shall include any area having a probable or known release of a hazardous waste, hazardous constituent or hazardous substance which is not from a solid waste management unit and which poses a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action, in accordance with the requirements of this Agreement.

G. Authorized Representatives shall mean a Party's employees, agents, successors, assigns, and contractors acting in any capacity, including an advisor capacity, when so designated by that Party.

H. CERCLA shall mean the Comprehensive Environmental

Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601, et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499.

I. Corrective Action shall mean those actions necessary to correct releases to all media from all Solid Waste Management Units and/or AOCs at RCRA facilities. Corrective Action consists primarily of four steps: the RCRA Facility Assessment, the RCRA Facility Investigation, the Corrective Measures Study, and the Corrective Measures Implementation (including interim measures). For the purposes of this Agreement, the term Corrective Action shall be equivalent to the terms Respond, Response or Response Action.

J. Corrective Measures Implementation (CMI) shall mean the design, construction, operation, maintenance, and monitoring of selected corrective measures. For the purposes of this Agreement, the CMI shall meet the requirements of RCRA, the corrective action requirements of KRS 224 SubChapter 46, their implementing regulations and the RCRA Permits, and shall be equivalent to the Remedial Design/Remedial Action.

K. Corrective Measures Study (CMS) shall mean the study or report identifying and recommending, as appropriate, specific corrective measures that will correct the release(s) identified during the RCRA Facility Investigation. For the purposes of this

Agreement, the CMS shall be equivalent to the Feasibility Study.

L. Days shall mean calendar days, unless business days are specified. Any submittal or written statement of dispute that, under the terms of this Agreement, would be due on a Saturday, Sunday, or holiday shall be due on the following business day.

M. DOE shall mean the United States Department of Energy and its authorized representatives.

N. Draft (D1) Primary Document shall mean the first draft of a report or work plan issued by DOE for any primary document listed in Section XX.C.1 and transmitted to EPA and KNREPC for review and comment under Section XX (Review/Comment On Draft/Primary Documents) of this Agreement except for RODs and IM Reports. The first draft of RODs and IM Reports shall represent the Draft-Final (D2) Primary Document.

O. Draft-Final (D2) Primary Document shall mean the revised draft report or work plan issued by DOE for any primary document listed in Section XX.C.1 (Review/Comment On Draft/Primary Documents) after receipt of comments from the EPA and KNREPC and before it becomes a final primary document under Section XX (Review/Comment On Draft/Primary Documents). All Draft-Final Primary Documents will be designated D2. A D2 Primary Document may be subject to the dispute resolution procedures of Section XXV (Resolution of Disputes) of this Agreement.

P. EPA shall mean the United States Environmental Protection Agency and its authorized representatives.

Q. Feasibility Study(s) (FS) shall mean a study to develop and evaluate options for remedial action. The FS emphasizes data analysis and is generally performed concurrently and in an interactive fashion with the remedial investigation (RI), using the data gathered during the RI. The RI data are used to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The term also refers to the report that describes the results of the study. For purposes of this Agreement, the FS shall be equivalent to the CMS.

R. Hazardous Constituent(s) shall mean those substances listed in Appendix VIII to 40 C.F.R. Part 261 and includes Hazardous Constituents listed in Table 1 of 40 C.F.R. § 261.24.

S. Hazardous Substances shall have the meaning set forth in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

T. Hazardous Waste(s) shall have the meaning set forth by § 1004(5) of RCRA, 42 U.S.C. § 6903(5) and in 40 C.F.R. Parts 260 and 224 KRS 01-010 (31)(b).

U. Interim Measures (IM) shall mean those measures conducted in accordance with Condition II.E. of the EPA HSWA Permit and Condition IV.E of DOE's Kentucky Hazardous Waste

Permit to contain, remove, mitigate, or treat contamination resulting from the release of Hazardous Constituents from Solid Waste Management Units and AOCs in order to protect against current or potential threats to human health and the environment.

Such measures shall be equivalent to Interim Remedial Actions or Removal Actions under this Agreement.

V. Interim Remedial Action shall mean a temporary or non-final action performed in anticipation of a subsequent final remedy decision. Such actions may be necessary to, among other things, control or prevent the further spread of contamination while a final comprehensive remedy is being developed. A ROD specifying Interim Remedial Action for an Operable Unit necessitates an incomplete RI/FS for that Operable Unit. Therefore, an RI/FS for an Operable Unit undergoing an Interim Remedial Action, shall be continued or planned in accordance with Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings) of this Agreement.

W. KNREPC shall mean the Commonwealth of Kentucky's Natural Resources and Environmental Protection Cabinet and its authorized representatives.

X. National Contingency Plan (NCP) shall mean the National Oil and Hazardous Substances Pollution Contingency Plan, 40

C.F.R. Part 300, and any amendments thereto.

Y. National Priorities List (NPL) Site shall mean the Site as finally promulgated at 40 C.F.R. Part 300.

Z. On-site shall mean the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action, 40 C.F.R. Section 300.400(e). Nothing contained in this paragraph Z shall limit any authority KNREPC has, absent this Agreement, to enforce the requirements of Kentucky law.

AA. Operable Unit (OU) shall mean a discrete action that comprises an incremental step toward comprehensively addressing Site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of release, or pathway of exposure. The cleanup of the Site can be divided into a number of OUs, depending on the complexity of the problems associated with the Site. OUs may address geographic portions of the Site, specific Site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of the Site. A Comprehensive Site (CS) OU is an OU which integrates the information obtained from Potential OU RI/FS activities regarding environmental media (i.e., surface water OU and ground water OU) which has been

contaminated by commingled source Releases. OUs will not impede implementation of subsequent response actions at the Site.

BB. Paducah Gaseous Diffusion Plant (PGDP) shall mean the lands owned by the United States and under the jurisdiction of DOE (approximately 3,423 acres) that are located in Western McCracken County, Kentucky, approximately 10 miles west of Paducah Kentucky. PGDP is described in more detail in Section VIII (Site Description) of this Agreement.

CC. Parties shall mean all parties who are signatories to this Agreement.

DD. Potential Operable Units shall mean those areas listed in the most recently approved SMP and RCRA Permits which are to be addressed under a single RI/FS Work Plan which may lead to a single Proposed Plan (as such term is hereafter defined) and a corresponding RCRA Permit modification for the Potential OU as a whole, or multiple Interim Remedial Action OU Proposed Plans. Waste Area Groupings identified in the RCRA Permits shall be included in the list of Potential OUs.

EE. Project Manager(s) shall mean the officials designated by EPA, DOE, and KNREPC to coordinate, monitor, or direct remedial response actions at the Site.

FF. Proposed Plan shall be the report which briefly describes the remedial alternatives analyzed, proposes a

preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative. The Proposed Plan shall meet the criteria established in 40 C.F.R. Section 300.430(f)(2). The Proposed Plan shall be considered as equivalent to the Draft Permit Modification.

GG. Quality Assured Data shall mean data that have undergone the quality assurance process as set forth in the approved Quality Assurance Plan.

HH. RCRA shall mean the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901, et seq., as amended. 98-616.

II. RCRA closure and post-closure care shall mean closure and post-closure care of hazardous waste management units under 40 C.F.R. Parts 264 and 265 or the Commonwealth of Kentucky's corresponding regulations.

JJ. RCRA Facility Assessment(s) (RFA(s)) shall mean the assessment(s) performed under RCRA to identify actual and potential releases from regulated units and other Solid Waste Management Units located at PGDP. This includes Solid Waste Management Unit (SWMU) Assessment Reports for newly discovered SWMUs identified since issuance of the RCRA Permits. For the purposes of this Agreement, RFA shall include removal and remedial site evaluations.

KK. RCRA Facility Investigation (RFI) shall mean an

investigation performed in accordance with the RCRA Permits to gather data sufficient to adequately characterize the nature, extent and rate of migration of actual and potential hazardous constituent releases identified in the RFA. For purposes of this Agreement, RFI shall be equivalent to the Remedial Investigation.

LL. Record of Decision (ROD) shall mean the document issued which describes a remedial action plan for an Operable Unit pursuant to Section 117(b) of CERCLA, 42 U.S.C. § 9617 and shall be consistent with 40 C.F.R. 300.430(f)(5).

MM. Release shall mean any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes 1) any Release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such person, 2) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, 3) Release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the AEA, if such Release is subject to requirements with respect to financial protection established by

the Nuclear Regulatory Commission under Section 170 of the AEA, or, for the purposes of Section 104 of CERCLA or any other response action, any Release of source, byproduct, or special nuclear material from any processing site designated under Section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978, 4) the normal application of fertilizer, and 5) the Releases of petroleum as excluded under Section 101(14) and (33) of CERCLA, 42 U.S.C. § 9601(14) and (33). However, nothing herein shall affect DOE's obligation to report Releases of petroleum pursuant to KRS 224.01-400 and 224.01-405.

NN. Regulated Unit shall mean a surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982.

OO. Remedial Action (RA) shall mean the implementation of the RA Work Plan, in accordance with the ROD, the approved Remedial Design (RD), the NCP and Superfund Remedial Design and RA Guidance including on-site construction, treatment processes, and any other necessary tasks and shall be consistent with 42 U.S.C. Section 9601(24). For the purposes of this Agreement, the RA shall be equivalent to the CMI which shall meet the requirements of the RCRA Permits.

PP. Remedial Action Work Plan shall mean the plan

describing the implementation of the RA selected for remediation of an OU.

QQ. Remedial Design (RD) Report shall mean the report which specifies the technical analysis and procedures which follow the selection of a remedy and result in a detailed set of plans and specifications for final design of the RA. In accordance with the approved RD Work Plan, Intermediate RD Reports and a Final RD Report shall be submitted for review and comment in accordance with Section XX (Review/Comment on Draft/Final Documents) of this Agreement. The design shall generally be developed in phases (e.g., 30%, 60%, 90%, etc.,) with Intermediate RD Reports for each primary design development/review phase.

RR. Remedial Design (RD) Work Plan shall mean the plan specifying the approach to developing the RD. This plan shall specify the general content, approach, and schedule for submitting the secondary Intermediate RD Report(s) and the D1 RD Report. Generally, the RD Work Plan shall include the conceptual design.

SS. Remedial Investigation (RI) shall mean an investigation conducted to adequately assess the nature and extent of the Release or threat of Release of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and

Hazardous Constituents and to gather necessary data to support the corresponding baseline risk assessment and FS and shall be consistent with 40 C.F.R. 300.5. For purposes of this Agreement, the RI shall be equivalent to the RFI.

TT. Removal Action shall have the same meaning as "remove" or "removal" as defined by Section 101(23) of CERCLA, 42 U.S.C. § 9601(23). For the purposes of this Agreement, Removal Action shall be equivalent to IM under the RCRA Permits.

UU. Respond, Response or Response Action shall have the meaning set forth in Section 101(25) of CERCLA, 42 U.S.C. § 9601(25). For purposes of this Agreement, the terms respond, response and response action shall be equivalent to Corrective Action.

VV. Site (Paducah Site) shall mean "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9), and includes all areas contaminated by Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents from Releases at PGDP. This definition is not intended to limit CERCLA, RCRA, or any other federal response authorities or Kentucky authorities.

WW. Site Management Plan (SMP) shall mean the plan, to be updated annually, which establishes the fiscal year, fiscal year +1, fiscal year +2, and any outyear enforceable commitments

(i.e., surface and ground water OU completion dates), and long term projections schedule for work planned in accordance with Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings) of this Agreement. The SMP is Appendix G hereto.

XX. Solid Waste shall have the meaning set forth by Section 1004(27) of RCRA, 42 U.S.C. § 6903(27) and in 40 C.F.R. Part 261 and KRS 224.01-010(31).

YY. Solid Waste Management Unit (SWMU) means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or Hazardous Waste. Such units include any area at a facility at which routine and systematic releases of hazardous wastes or hazardous constituents has occurred.

ZZ. Kentucky shall mean the Commonwealth of Kentucky.

AAA. Treatment, Storage, and Disposal (TSD) Units shall include all hazardous waste management units, as the term is defined by 40 C.F.R. 260.10 and 401 KAR 30:010, authorized to treat, store, and dispose of RCRA hazardous wastes under the RCRA "base program" administered by the Commonwealth of Kentucky.

BBB. Timetables and Deadlines shall mean schedules as well as that work and those actions that are to be completed and performed in conjunction with such schedules, including

performance of actions and schedules established pursuant to Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings), Section XIX (Additional Work), Section XX (Review/Comment On Draft/Primary Documents), and Section XXV (Resolution of Disputes) of this Agreement.

CCC. Waste Area Grouping (WAG) shall mean a group of solid waste management units and/or other Areas Of Concern that are geographically contiguous, hydrologic units or SWMUs/AOCs that exhibit other common characteristics (e.g., contaminant type, remedial alternatives, etc.). DOE may consolidate SWMUs, WAGs, and/or other areas into single groupings for purposes of conducting any work under this Agreement and with the concurrence of EPA and KNREPC. Potential OUs include a WAG or a group of WAGs which assemble SWMUs/AOCs under a single RI/FS Work Plan to facilitate effective site characterization.

III. PURPOSES OF AGREEMENT

A. The general purposes of this Agreement are to:

1. Ensure that the environmental impacts associated with past and present activities at the Site are thoroughly investigated and that appropriate response action is taken as necessary to protect the public health and welfare and the environment.

2. Ensure that all Releases of Hazardous Substances, pollutants or contaminants as defined by CERCLA and all Releases of Hazardous Wastes as defined by RCRA and KRS Section 224 or Hazardous Constituents as defined by RCRA are addressed so as to achieve a comprehensive remediation of the Site;

3. Establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions at the Site in accordance with CERCLA, the NCP, RCRA Sections 3004(u) and (v), 3008(h), the RCRA Permits the Corrective Action Provisions of KRS 224 Subchapter 46, and appropriate guidance and policy, and in accordance with the law of the Commonwealth of Kentucky;

4. Facilitate cooperation, exchange of information, and participation of the Parties and provide for effective public participation;

5. Minimize the duplication of investigative and analytical work and documentation and ensure the quality of data management;

6. Ensure that response action(s) at the Site will be in compliance with ARARs (unless a particular ARAR is waived pursuant to 40 CFR §300.430(f)(1)(ii)(C));

7. Expedite response actions with a minimum of delay;

8. Establish a basis for a determination that DOE has completed the RI/FS(s), RD(s), and RA(s) at the Site pursuant to CERCLA, the NCP and the corrective action provisions of KRS 224 Subchapter 46;

9. Coordinate response actions under CERCLA, including actions taken under the ACO, with the Corrective Action activities required by the RCRA Permits and Kentucky hazardous waste laws.

10. Coordinate response actions under CERCLA, RCRA Sections 3004(u) and (v), 3008(h), the Corrective Action Provisions of KRS 224 Subchapter 46, and this Agreement with any investigatory/response actions that may be required pursuant to the KPDES, for those outfall ditches subject to investigation under this Agreement;

11. Coordinate an early review of response actions by the appropriate federal and Kentucky Natural Resources Trustees to minimize or eliminate potential injury to natural resources. Provided, however, that nothing herein shall be deemed to vest in the Natural Resource Trustees any authority they would not otherwise have absent this Agreement.

B. Specifically, the purposes of this Agreement are to:

1. Establish requirements for conducting the removal actions identified or to be identified in Section X (Removal

Actions) consistent with the purposes of this Agreement and in a manner consistent with the NCP and the RCRA Permits.

2. Identify Potential OUs, and OUs for Interim RAs, which are necessary or appropriate at the Site in accordance with the program management principles of the NCP. This process is designed to promote cooperation among the Parties in the early identification of Potential OUs and to coordinate the investigatory process with the evaluation of remedial alternatives prior to selection of an Operable Unit(s) via a Proposed Plan.

3. Establish one set of consistent requirements, consistent with the NCP, and the RCRA Permits, for the performance of an RI(s) to adequately determine the nature and extent of the threat to the public health or welfare or the environment caused by the Release or threatened Release of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and hazardous constituents at the Site in accordance with CERCLA, RCRA Sections 3004(u) and (v), 3008(h), the Corrective Action Provisions of KRS 224 Subchapter 46, and in compliance with ARARs identified pursuant to this Agreement. Appendix B lists those SWMUs or AOCs under the RCRA Permits requiring an RI.

4. Establish one set of consistent requirements, consistent with the NCP, and the RCRA Permits for the performance

of an FS(s) for the Site to identify, evaluate, and select alternatives for the appropriate RA(s) to prevent, mitigate, or abate the Release or threatened Release of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents at the Site in accordance with CERCLA, RCRA Sections 3004(u) and (v), 3008(h), the Corrective Action Provisions of KRS 224 Subchapter 46, and in compliance with ARARs identified pursuant to this Agreement.

5. Establish requirements for the performance of a periodic review of response actions to determine fully the nature and extent of the threat to the public health or welfare or the environment anticipated to remain at the Site, including risks associated with more than one Operable Unit. The periodic review shall be performed in accordance with Section XXX (Five Year Review) of this Agreement.

6. Identify the nature, objective and schedule of response actions to be taken at the Site. Response actions at the Site shall attain that degree of remediation of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents, as mandated by CERCLA, RCRA Sections 3004(u) and (v), 3008(h), the Corrective Action Provisions of KRS 224 Subchapter 46, and in compliance with ARARs identified pursuant to this Agreement.

7. Implement the selected removal actions and RAs (including Interim Remedial Actions) in accordance with CERCLA, the NCP, RCRA Sections 3004(u) and (v), 3008(h), the RCRA Permits, the Corrective Action Provisions of KRS 224 Subchapter 46, and in compliance with ARARs identified pursuant to this Agreement.

8. Meet the requirements of Section 120(e)(2) of CERCLA, 42 U.S.C. § 9620(e)(2).

9. Provide for continued operation and maintenance following implementation of the selected RA(s).

10. Assure compliance with Federal and Commonwealth of Kentucky hazardous waste laws and regulations for matters covered by this Agreement.

11. Expedite the remediation process to the extent necessary to protect human health and welfare and the environment.

12. Provide for the continuation of the actions initiated under the ACO and ensure that such actions are in compliance with this Agreement, the NCP and RCRA Sections 3004(u) and (v), 3008(h), and the Corrective Action Provisions of KRS 224 Subchapter 46.

13. Provide for early and meaningful public involvement in the initiation, development, and selection of remedial

action(s) to be undertaken at the Site, including the review of all applicable data as it becomes available and the development of studies, reports, and action plans.

14. Provide a framework for reducing the costs of clean-up activities at the Site through improved project management, greater involvement of EPA and KNREPC in DOE's planning and budgeting processes, improved oversight of clean-up, greater use of consultative approaches, and elimination or streamlining of unnecessary procedures.

C. Under this Agreement, DOE agrees that it shall conduct, at a minimum, the following activities to meet the purposes of this Agreement:

1. Perform site evaluations for those areas with potential or known Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents identified after the effective date of this Agreement, pursuant to Section IX (Site Evaluations) of this Agreement.

2. Identify and prioritize Potential OUs at the Site for the purposes of expediting removal actions/RAs for those OUs which pose the greatest risks of exposure and/or migration. The identification and prioritization of Potential OUs shall meet the requirements of Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity

Savings) of this Agreement.

3. Conduct removal actions for the Site in accordance with the timetables set forth in Appendix C of this Agreement. The removal actions shall meet the requirements set forth in Section X of this Agreement.

4. For each final Potential OU (involving final Remedial Action) at the Site, conduct an RI and prepare a Baseline Risk Assessment in accordance with the timetables set forth in Appendix C of this Agreement. The RI and Baseline Risk Assessment shall meet the requirements set forth in Section XI of this Agreement. The scope of the RI and Baseline Risk Assessment shall reflect the scope of the response action for the action under consideration.

5. For each final Potential OU (involving final Remedial Action) at the Site, conduct, develop, and prepare an FS in accordance with the timetables set forth in Appendix C of this Agreement. The FS shall meet the requirements set forth in Section XII of this Agreement. The scope of the FS shall reflect the scope of the action under consideration.

6. Following completion of the RI, Baseline Risk Assessment, and FS for each of the Potential OUs, publish a Proposed Plan for public review and comment in accordance with the timetables set forth in Appendix C of this Agreement. The

Proposed Plan shall meet the requirements of Section XIV of this Agreement.

7. For each of the OUs at the Site, issue a ROD in accordance with the timetables set forth in Appendix C of this Agreement. The ROD shall meet the requirements of Section XIV of this Agreement.

8. Develop documentation necessary to support Interim RAs, as required pursuant to Section XIV.B of this Agreement.

9. For the Comprehensive Site Operable Unit(s) (CS OUs) (i.e., surface and ground water integrator units) required in accordance with Section XIII of this Agreement, conduct and report upon a RI/FS (including Baseline Risk Assessment), in accordance with the timetables set forth in Appendix C of this Agreement. The CS OU RI/FS(s) shall be carried out in accordance with Section XIII of this Agreement, and any necessary remedial action shall be selected and implemented in accordance with Sections XIV and XV of this Agreement. In the event EPA and Kentucky determine after review of the Final CS OU, as described in Section XIII of this Agreement, that the selected response actions are not protective of human health and the environment, as required by CERCLA, the NCP, RCRA Sections 3004(u) and (v), 3008(h), the Corrective Action Provisions of KRS 224 Subchapter 46, and appropriate EPA policy and guidance, the three Parties

to this Agreement agree to modify the Agreement to take the necessary action to provide adequate protection to human health and the environment.

10. Following finalization of each ROD for each Operable Unit, as set forth in Section XIV of this Agreement, DOE shall develop and submit a RD/RA Work Plan for the design and implementation of the RA(s) selected in each ROD in accordance with Section XV of this Agreement.

11. Following review and approval by EPA and KNREPC of the RD/RA Work Plans for each OU, DOE shall implement the RA(s) in accordance with Section XV of this Agreement.

IV. RCRA/CERCLA AND KPDES COORDINATION

A. The Parties intend to use this agreement to coordinate DOE's CERCLA response obligations with the corrective measures required by its current RCRA Permits and Kentucky's hazardous waste statutes and regulations. The Parties further intend that the response actions under this Agreement together with the corrective measures required by the RCRA Permits, will achieve comprehensive remediation of Releases and threatened Releases of Hazardous Substances, pollutants or contaminants or Hazardous Wastes and Hazardous Constituents from the SWMUs/AOCs in Appendix B, as well as any other Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents from

sources identified pursuant to this Agreement. Response actions under this Agreement will address Hazardous Substances, pollutants or contaminants, as defined under CERCLA, in addition to Hazardous Wastes and Hazardous Constituents, as defined under RCRA. Therefore, the Parties intend that compliance with the terms of this Agreement will be deemed to achieve compliance with CERCLA, 42 U.S.C. §§ 9601, et seq.; the Corrective Action requirements of Sections 3008(h) of RCRA, 42 U.S.C. § 6928(h) for Interim status facilities; the investigation and Corrective Action requirements of § 3004(u) and (v) of RCRA, 42 U.S.C. § 6924(u) and (v); and the Corrective Action requirements of KRS 224 Subchapter 46. The parties also intend that remediation at the Site will meet or exceed all applicable or relevant and appropriate Federal and Kentucky laws and regulations to the extent required by Section 121 of CERCLA, 42 U.S.C. § 9621. The documents common to RCRA and CERCLA, and a flowchart for their submittal is provided in Appendix A to this Agreement. For purposes of coordinating CERCLA, RCRA, and the corrective action requirements of KRS 224 Subchapter 26, the technical documents required pursuant to the CERCLA response action and the federal and Kentucky RCRA corrective action process will be deemed equivalent, provided that the elements of Appendix D are considered and incorporated as appropriate.

B. Further, the Parties intend to coordinate the remedial activities that are regulated under this Agreement with the requirements of the Federal Facility Compliance Act to develop a plan for treatment of those mixed wastes that are: (1) generated by actions under this Agreement, and (2) required to be treated to meet RCRA Section 3004(m) and KRS 224 Subchapter 46 standards.

The Parties agree that all mixed wastes generated by actions under this Agreement will be regulated by the approved Site Treatment Plan and Order enforced by KNREPC in lieu of being regulated under this Agreement.

Finally, the Parties intend to coordinate DOE's RCRA/CERCLA response obligations with the requirements of the KPDES Permit for the Site to evaluate contaminated surface water discharges. This coordination specifically applies to the outfall ditches identified in Appendix B and any other discharge applicable to KPDES permitting, resulting from, at least in part, SWMU or AOC hazardous constituent Releases, or any other hazardous substance Releases identified in Appendix B to this Agreement.

However, the Parties recognize that:

- a. DOE is obligated to comply with the applicable requirements of RCRA, KRS 224 Subchapter 46, CERCLA and Kentucky environmental law for all remedial activities under this Agreement;

- b. the coordination of these statutory requirements under this Agreement in no way diminishes DOE's obligations;
- c. the inclusion of these statutory requirements in a single document serves to facilitate DOE's efficient compliance with these statutory requirements; and
- d. the Agreement is a single document that has a dual purpose of serving both as a CERCLA § 120 Interagency Agreement and a KRS 224 Subchapter 46 corrective action order; the requirements of both are enforceable by the parties.

C. This Agreement expands the RFAs and Investigations at PGDP, in a manner consistent with Conditions II.C. and II.D.1.b. of the EPA HSWA permit and Conditions IV.C. and IV.D.1.b. of the Kentucky Hazardous Waste Permit, to include requirements to investigate Releases at or from units not identified in the EPA HSWA Permit and the Kentucky Hazardous Waste Permit issued July 16, 1991. The Parties intend to coordinate and combine the assessments, investigations, and other response actions at the Site. Work done and data generated prior to the effective date of this Agreement pursuant to the ACO or the RCRA Permits shall be retained and utilized as appropriate under this Agreement to the maximum extent feasible. A list of the documents submitted to EPA and/or KNREPC pursuant to the ACO and the RCRA Permits is contained in Appendix F. Appendix F identifies the statutory

framework governing review of such documents and further identifies whether or not approval of the document was granted. All documents submitted, but not approved, as of the effective date of this Agreement, shall be reviewed and approved in accordance with CERCLA, the NCP, RCRA Sections 3004(u) and (v), 3008(h), the RCRA Permits and the Corrective Action Provisions of KRS 224 Subchapter 46. All documents submitted after the effective date of this Agreement shall be reviewed and approved in accordance with this Agreement. The Parties intend to combine the administrative records and files developed for activities under the RCRA Permits and any previous response actions with response actions under this Agreement in order to facilitate public participation in the selection of response actions under this Agreement and to ensure comprehensive remediation of the Site. The Parties shall coordinate the procedures for the selection of response action(s) under this Agreement with the administrative procedures for issuance of any future modifications of the RCRA Permits. Subject to Section XL (Reservation of Rights) of this Agreement, EPA and/or KNREPC will modify DOE's RCRA Permits to incorporate the RA(s) selected under this Agreement as corrective measures, when appropriate to satisfy Sections 3004(u) and (v) of RCRA, 42 U.S.C. §§ 6924(u) and (v), and the Corrective Action requirements of Kentucky's

Hazardous Waste statutes and regulations. Upon signature of this Agreement by all parties, EPA and KNREPC shall modify DOE's RCRA Permits to amend the compliance schedule for Sections 3004(u) and (v) of RCRA, 42 U.S.C. §§ 6924(u) and (v), and KRS 224 Subchapter 46 to reference the Timetables and Deadlines of this Agreement, as well as other provisions of DOE's RCRA Permits necessary to facilitate coordination with the requirements of this Agreement. If, due to public comment or appeal, any amendment to DOE's RCRA Permits being made to facilitate such coordination is changed so as to cause inconsistency between the requirements of DOE's RCRA Permits and this Agreement, the Parties agree to modify this Agreement so as to minimize or eliminate the inconsistency to the extent allowable under applicable law.

D. The Parties recognize that the requirement to obtain Permits for response actions undertaken pursuant to this Agreement shall be as provided for in Section XXI of this Agreement.

E. Notwithstanding any provision of this Agreement, any challenges to response actions selected or implemented under Sections 104, 106, or 120 of CERCLA, 42 U.S.C. §§ 9604, 9606, or 9620, may be brought only as provided in Section 113 of CERCLA, 42 U.S.C. § 9613. Judicial review of any conditions of the RCRA Permits which reference this Agreement shall, to the extent

authorized by law, be consistent with this Subparagraph E. Nevertheless, KNREPC asserts that nothing in this Agreement shall preclude the KNREPC from taking any action to enforce any requirement of RCRA or KRS Subchapter 46 consistent with Section XL (Reservation of Rights) of this Agreement. DOE reserves the right to appeal any modification to the RCRA Permits which is different from the corresponding response action selected or implemented under this Agreement. The timing of such appeal shall not be limited by this Subparagraph D. DOE also reserves the right to appeal any modification of the RCRA Permits which is inconsistent with RCRA or KRS 224.

F. KNREPC decisions for TSD Units over which KNREPC has regulatory authority, and for which KNREPC has issued RCRA Hazardous Waste Permits establishing operating, closure, or post-closure standards for treatment, storage and disposal shall not be subject to the terms of this Agreement. Appendix B, which lists such units, will be revised by KNREPC periodically, as appropriate.

G. All materials removed from the Site shall be disposed of or treated at facilities operating in compliance with applicable provisions of RCRA, the Toxic Substances Control Act, 15 U.S.C. §2601 et seq., and other applicable Federal and Kentucky requirements, including U.S. EPA's Off-Site Policy 42 U.S.C.

§9657 and 40 CFR §300.440.

V. STIPULATED FACTS

A. For purposes of this Agreement only, the stipulated facts presented herein constitute a summary of facts upon which this Agreement is based. None of the facts related herein shall be considered admissions by any Party. This Section contains findings of fact determined solely by the Parties and shall not be used by any other person related or unrelated to this Agreement for purposes other than determining the basis of this Agreement.

B. PGDP is owned by DOE and is used for the enrichment of uranium for use in fueling power plants. The United States Enrichment Corporation (USEC), a wholly owned federal government corporation, leases and operates portions of PGDP in accordance with the Energy Policy Act of 1992, P.L. 102-486 (signed October 24, 1992), and is subject to the USEC Privatization Act, P.L. 104-134 (signed April 26, 1996) and the lease provisions between DOE and USEC.

C. DOE performed a baseline environmental survey in 1986 which revealed approximately ninety-three (93) areas in which Hazardous Substances may have been Released into the environment within the meaning of Section 101(22) of CERCLA, 42 U.S.C. §9601(22). The survey also identified at least three (3) areas

in which the groundwater is contaminated with trichloroethylene (TCE) and radionuclides.

D. PGDP's 1986 Environmental Surveillance Report included data showing that beta emitters were present in samples taken from groundwater well number 66 located in the northwest corner of PGDP. Well number 66 was installed in August 1986. Initial sample data collected from well No. 66 revealed a dissolved beta activity in the sample of 1020 picocuries per liter (pCi/l).

E. On July 25, 1988, personnel from the McCracken County Health Department of the Commonwealth of Kentucky collected groundwater samples from groundwater wells designated 173-R-08 and 173-R-11, near PGDP. The Department for Health Services for the Commonwealth of Kentucky reported analytical results showing that the gross beta, and potentially gross-alpha, activity from these samples were 49.2 pCi/l and 6.8 pCi/l at sampling location 173-R-08 and 188.2 pCi/l and 6.8 pCi/l at sampling location 173-R-11. The analytical results from subsequent samples showed an alpha activity of 7.1 pCi/l and beta activity of 264.0 pCi/l.

F. The analytical data from samples taken in 1988 from on-site groundwater monitoring well number 66 show results for TCE that range from 3800 parts per billion (ppb) to 5900 ppb, and results for technetium (Tc^{99}) that range from 2850 pCi/l to 4200 pCi/l.

G. Groundwater well numbers 173-R-08 and 173-R-11 are located approximately 1.5 miles and 0.75 miles, respectively, from the northwest corner of PGDP and are located in line with groundwater well number 66 on PGDP.

H. On August 10, 1988, DOE initiated groundwater sampling of private groundwater wells and analyzed the samples for TCE and Tc⁹⁹.

I. As of November 1988, approximately 135 residential groundwater wells and 23 monitoring wells on the TVA-SHAWNEE reservation were sampled. These wells are located around the perimeter of PGDP. The results of sampling indicated that the contaminants TCE and Tc⁹⁹ are/or may be present in 12 wells located north of PGDP. In 6 wells, analytical results revealed the presence of TCE in excess of the standard (i.e. 5ug/l) established by EPA for drinking water, promulgated on July 8, 1987.

J. The concentration of TCE detected in the above-mentioned wells ranged from less than 1 ug/l to 960 ug/l. The concentration of technetium in the above-mentioned wells varied from less than 25 to 408 pCi/l. The maximum measured concentration of Tc⁹⁹ in a residential well was 408 pCi/l.

K. On August 12, 1988, PGDP and McCracken County Disaster and Emergency Services personnel contacted ten (10) residents

north of the plant and advised them not to drink or bathe in water from their wells. Potable water was supplied to the affected residents.

L. Effective November 23, 1988, DOE and EPA entered into an Administrative Consent Order (ACO) for PGDP. The ACO directed an investigation of PGDP to: (1) determine fully the nature and extent of the threat to human health or welfare and the environment caused by the off-Site contamination of the groundwater from PGDP; (2) ensure that the environmental effects associated with any Releases or threatened Releases are thoroughly investigated and appropriate action taken as necessary to protect the public health, welfare and the environment; (3) establish a work plan and schedule(s) for developing, implementing and monitoring any necessary response actions at the Site in accordance with CERCLA; and (4) to facilitate the cooperation, exchange of information and participation of the Parties in such action.

M. In accordance with the work plans required pursuant to the ACO, the ACO documents listed in Appendix F have been submitted.

N. In accordance with the Kentucky RCRA Permit and the EPA HSWA Permit, 7 RFI Work Plans, 205 SWMUs identified in various SWMU Assessment Reports, and 4 Interim Corrective Measures Work

Plans have been submitted as of June 20, 1996.

O. In accordance with Section 120(d)(2) of the Superfund Amendments and Reauthorization Act of 1986, U.S. EPA prepared a final Hazard Ranking System (HRS) Scoring Package for the Site. The Site was proposed for listing on the National Priorities List in the Federal Register of May 10, 1993. The HRS score was 56.95. The Site was listed on the National Priorities List on May 31, 1994 at 59 Fed. Reg. 27,989.

VI. STIPULATED DETERMINATIONS

For the purposes of this Agreement only, the following constitute the determinations upon which this Agreement is based.

A. PGDP is located in Western McCracken County, Kentucky, approximately 10 miles west of Paducah, Kentucky and constitutes a facility within the meaning of Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). PGDP, for the purposes of this Agreement, is a Federal installation listed on the Federal Agency Hazardous Waste Compliance Docket pursuant to CERCLA Section 120. PGDP is subject to, and shall comply with, CERCLA, RCRA and all applicable Kentucky hazardous waste laws in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under Section 107 of CERCLA, 42 U.S.C. § 9607. PGDP is a facility authorized to operate under Section 3005(c) and 3005(e) of RCRA, 42 U.S.C. §

6925(c) and 6925(e), and KRS 224 Subchapter 46.

B. Consistent with RCRA Section 3010, DOE notified EPA and/or Kentucky of hazardous waste activity at the Site in 1980.

On June 29, 1984, DOE filed RCRA and KNREPC Part A hazardous waste permit applications. Thereafter, on November 1, 1985, DOE filed RCRA and KNREPC Part B hazardous waste applications for treatment, storage and/or disposal units at the Site.

C. On July 16, 1991, EPA issued a Permit, effective August 19, 1991, under Section 3005(c) of RCRA, 42 U.S.C. § 9625(c), to DOE to require it to determine whether there have been any Releases of Hazardous Waste or Hazardous Constituents from SWMUs or AOCs on PGDP and to take appropriate Corrective Action for any such Releases. This permit, in conjunction with the Hazardous Waste Permit issued by the Commonwealth of Kentucky on July 16, 1991, constitute the RCRA Permits for the PGDP. The PGDP has treatment, storage or disposal units that have Part B hazardous waste permits.

D. Hazardous Substances, pollutants or contaminants and solid wastes and Hazardous Wastes and/or Hazardous Constituents within the meaning of Sections 101(14), 101(33) and 104(a)(2) of CERCLA, 42 U.S.C. §§ 9601(14), 9601(33), and 9604(a)(2), and Sections 1004(27) and 1004(5) of RCRA, 42 U.S.C. §§ 6903(27) and 6903(5) and 40 C.F.R. Part 261, and KRS 224.01.010 (31)(a) and

(b) (42) and 401 KAR 30:010(85) and (87), and 401 KAR 31:010 Section 3 have been Released or disposed of at the Site.

E. There have been Releases and there continue to be Releases and threatened Releases of Hazardous Substances, pollutants or contaminants and solid and Hazardous Wastes (including Hazardous Constituents) from the Site into the environment within the meaning of Sections 101(22), 104, 106, and 107 of CERCLA, 42 U.S.C. §§ 9601(22), 9604, 9606, and 9607, and Sections 1004(27), 1004(5), and 3004(u) of RCRA, 42 U.S.C. §§ 6903(27), 6903(5), and 6924(u), and KRS 224.01-010 (31)0(3)(a) and (b) and (42) and 401 KAR 30:010 (85) and (87)(224)(b) and (82) and 401 KAR 31:010 Section 3. PGDP releases of source, special nuclear, and byproduct materials in compliance with legally enforceable orders issued pursuant to the AEA are "federally permitted releases" as defined in Section 101(10) of CERCLA, 42 U.S.C § 9601(10).

F. With respect to those Releases and threatened Releases, DOE is a person and an owner or operator within the meaning of Sections 101(21), 101(20), and 107 of CERCLA, 42 U.S.C. §§ 9601(21), 9601(20), and 9607, and KRS 224.01-010(17) and Kentucky Administrative Regulations 401 KAR 30:010 (144), (145). PGDP is authorized to operate under Section 3005(e) of RCRA, 42 U.S.C. § 6925(e) and 3005(c) of RCRA, 42 U.S.C. §

6925(c), and Section 3005(c) of RCRA, 42 U.S.C. § 9625(c), and KRS 224 Subchapter 46.

G. The actions to be taken pursuant to this Agreement are reasonable and necessary to protect public health, welfare and the environment.

H. A reasonable time for completing the actions required by this Agreement will be provided.

VII. PARTIES

The Parties to this Agreement are EPA, KNREPC, and DOE. KNREPC is the authorized representative of Kentucky for purposes of this Agreement. The terms of this Agreement shall apply to and be binding upon the EPA, KNREPC, and DOE, their respective agents, employees, and response action contractors for the Paducah Site and upon all subsequent owners, operators, and lessees of DOE for the Site. Nothing in this Section shall be construed as binding the United States Enrichment Corporation (USEC) to the terms of this Agreement. This Agreement shall not be construed to relieve USEC of its obligations, if any, under the hazardous waste Permit issued for PGDP or of compliance with RCRA or KRS 224 and the regulations promulgated thereunder; nor shall this Agreement be construed as relieving the USEC from any potential CERCLA liability. DOE shall be responsible for coordinating with the USEC to ensure that the on-Site activities

of the USEC do not interfere in any way with the implementation of this Agreement. DOE shall notify EPA and KNREPC in its fiscal year quarterly written progress reports (as further discussed in Section XXIII (Reporting) of this Agreement) of the identity and assigned tasks of each of its contractors performing work under this Agreement upon their selection. DOE shall take all necessary measures to assure that its contractors, subcontractors, and consultants performing work under this Agreement act in a manner consistent with the terms of this Agreement. This Section shall not be construed as an agreement by the Parties to indemnify each other or any third party. DOE shall notify its agents, employees, response action contractors for the Site, and all subsequent owners, operators, and lessees of PGDP of the existence of this Agreement.

VIII. SITE DESCRIPTION

PGDP is an active Uranium Enrichment(UE) facility consisting of a diffusion cascade and extensive support facilities. Construction of PGDP began in 1951. The plant began operating in 1952 and was fully operational by 1955, supplying enriched uranium for commercial reactors and military defense reactors.

Extensive facilities are utilized in generating the primary product, enriched uranium. Enriched uranium is uranium in which the concentration of the fissionable U²³⁵ has been increased.

Natural uranium is mostly U^{238} , with about 0.72 weight-percent U^{235} and 0.005 weight-percent U^{234} . Uranium mills process the ores to produce a concentrated uranium oxide, U_3O_8 , that is then commercially converted to uranium hexafluoride (UF_6) for enrichment in the gaseous diffusion plant. The enrichment mechanism is based on the fact that a UF_6 molecule containing U^{235} is slightly lighter than a UF_6 molecule containing U^{238} . As the UF_6 molecules move through several miles of tubing in the diffusion plant's cascade system, slightly more U^{235} than U^{238} escapes through the small holes in the tubing. As the process of cascading is repeated, the U^{235} concentration increases. About two-thirds of the U^{235} in the natural ore is extracted during enrichment, so there are two product streams (1) enriched uranium product, and (2) depleted uranium tails. The majority of the depleted tails are stored, on-site, in 14-ton steel cylinders.

There are facilities to store, process, and manage the two uranium components (enriched and depleted). Also, at present, uranium enriched at PGDP is further enriched at another DOE gaseous diffusion plant in Portsmouth, Ohio; accordingly, there are packaging and transportation facilities. Most of the uranium from PGDP is ultimately designated for the commercial sector as fuel for nuclear power reactors in the United States and abroad.

There are extensive support facilities to maintain the diffusion process. These include a steam plant, four electrical switchyards, four sets of cooling towers, a chemical cleaning and decontamination facility, water and wastewater treatment plants, a chromium reduction facility, maintenance and laboratory facilities, and two active landfills. Several inactive facilities are also located on the plant site.

On October 24, 1992, the Energy Policy Act of 1992, Pub. L. 102-486, which amended the Atomic Energy Act of 1954, §§ 2011-2296 (1992, as amended), was signed into law. The Energy Policy Act establishes a new government corporation, the United States Enrichment Corporation (USEC), whose charter is to provide uranium enrichment services on a profitable and competitive basis. USEC leased DOE's Gaseous Diffusion Plant at Paducah beginning July 1, 1993. On April 26, 1996, the USEC Privatization Act, Pub. L. 104-134, was enacted.

The Energy Policy Act, the USEC Privatization Act and the lease provisions between DOE and USEC set out certain obligations for environmental conditions at the plant. The Energy Policy Act requires DOE to be responsible for the decontamination and decommissioning, response actions, and/or Corrective Actions for conditions existing before the transition date. "[A]ll liabilities attributable to operation of the uranium enrichment

enterprise before the transition (July 1, 1993) shall remain direct liabilities of the Department of Energy" Pub.L. 102-486 §1406(a). Section 3109(c) of the USEC Privatization Act provides that USEC "shall be liable for any liabilities arising out of its operations after the privatization date."

The area surrounding PGDP is predominantly rural. Immediately adjacent to PGDP is the West Kentucky Wildlife Management Area (WKWMA) comprised of 7000 acres, which is used by a considerable number of hunters and fishermen each year. A portion of PGDP is located on property formerly owned by the Department of Defense that includes the remnants of the Kentucky Ordnance Works (KOW), a World War II-era facility where trinitrotoluene (TNT) and other explosives were manufactured. The remaining area is lightly populated, and includes several farms and residences. The small communities of Grahamville and Heath are located approximately two (2) miles east of the plant. The community of Metropolis, Illinois is across the Ohio River from PGDP. PGDP is ten (10) miles west of Paducah, Kentucky.

PGDP is located within the drainage areas of Big Bayou and Little Bayou creeks, which meet about three miles north of the site and discharge into the Ohio River. Big Bayou Creek, which flows along the western boundary of the plant, is a perennial stream whose drainage extends from approximately two and one-half

miles south of the site to the Ohio River. Little Bayou Creek, which originated in the WKWMA, flows north toward the Ohio River along a course that includes parts of the eastern boundary of the plant. During dry weather much of the flow in both creeks is due to controlled effluent Releases from PGDP. These effluents constitute about 85 percent of the normal flow in Big Bayou Creek and 100 percent in Little Bayou Creek.

The regional geology at PGDP is characterized by Cretaceous, Tertiary, and Quaternary sediments overlying Paleozoic bedrock. The most important formation of these geologic systems includes the Continental Deposits of the Pleistocene/Pliocene series. The sediments of the Continental Deposits predominantly consist of clays, sands, and gravels. The gravel facies, which comprises the lower portion of the formation, is recognized as the most important portion of the formation because of its aquiferous characteristics and continuous nature. Accordingly, the unit has been termed the Regional Gravel Aquifer (RGA). The RGA is the uppermost aquifer at PGDP and serves as a local source of water to residences with private wells surrounding PGDP.

Since establishment of the UE facility in 1951, materials defined as hazardous substances, pollutants and contaminants by CERCLA and materials defined as hazardous waste and hazardous

constituents by RCRA and KRS Chapter 224 and the regulations promulgated thereunder have been produced and disposed or released at various locations at the Site including but not limited to treatment, storage and disposal units. Certain hazardous substances, pollutants, contaminants, hazardous waste and hazardous constituents have been detected and remain in groundwater, surface water, sediments and soils at the Site. Groundwater, surface water, sediments, soils and air pathways provide routes, or potential routes, of migration of hazardous substances, pollutants, contaminants, hazardous waste and hazardous constituents into the environment.

IX. SITE EVALUATION(S)

Upon discovery of an area with potential or known Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents identified after the effective date of this Agreement, DOE agrees to: (a) provide notice to EPA and KNREPC in accordance with Section 300.405 of the NCP, Conditions II.B.1 and II.B.2 of the EPA RCRA Permit and Conditions IV.B.1 and IV.B.2 of the Kentucky Hazardous Waste Permit; and (b) conduct removal site evaluations (SEs) in accordance with Section 300.410 of the NCP, remedial SEs in accordance with Section 300.420 of the NCP, and SWMU assessments in accordance with Condition II.B.3 of the EPA HSWA Permit and

Condition IV.B.3 of the Kentucky Hazardous Waste Permit. The Parties agree that the notifications provided by DOE pursuant to the RCRA Permits shall fulfill the reporting requirements to EPA and KNREPC specified in Section 300.405 of the NCP. DOE shall submit to EPA and KNREPC integrated Removal/Remedial SE and SWMU Assessment Reports (hereafter referred to as SE Reports), in a format consistent with Appendix D to this Agreement, for each newly discovered area with potential or known Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents. If the SE Report indicates that a removal and/or RA under Sections 300.415 or 300.430 of the NCP or the RCRA Permits is necessary, DOE shall conduct such response actions in accordance with Sections X and/or Sections XI through XV (i.e., Removal Actions or RAs) of this Agreement. If, upon review of the SE Report, EPA and KNREPC determine that a remedial investigation is necessary for an area, then DOE agrees, subject to the dispute resolution procedures in Section XXV (Resolution of Disputes), to amend Appendix B to this Agreement to include such areas and to conduct Additional Work at such areas under the terms of this Agreement as needed.

X. REMOVAL ACTIONS

A. Applicability:

DOE shall develop and perform removal actions, pursuant

to this Agreement, CERCLA, the NCP, and the IM provisions of the RCRA Permits to abate, minimize, stabilize, mitigate or eliminate the Release or threat of Release of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents at or from PGDP. DOE shall designate a PGDP On-Scene Coordinator (OSC) as required by Section 300.120 of the NCP. The PGDP OSC shall be the point of contact between DOE, EPA and KNREPC for all removal actions. DOE agrees to submit to EPA and KNREPC an annual Removal Action Report which describes the removal actions performed during the previous fiscal year. As appropriate, this report shall meet the reporting requirements to EPA of §300.165 of the NCP and the IM Reporting provisions of condition II.E.3 of the EPA HSWA Permit and condition IV.E.3 of the Kentucky Hazardous Waste Permit. The report shall be submitted as a section or appendix to the annual SMP.

Nothing in this Section or any other part of this Agreement shall restrict EPA or KNREPC from taking any action authorized under Section 106 of CERCLA necessary to abate Releases or potential Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes or Hazardous Constituents at or from the facility that present an imminent and substantial endangerment to public health or welfare or the environment. Likewise, nothing in this Agreement shall be construed as a

waiver of DOE's authority under Executive Order 12580 for implementation of removal actions. Pursuant to Executive Order 12580, DOE has authority to conduct removal actions under Section 104 of CERCLA, 42 U.S.C. § 9604. Except as otherwise provided in this Agreement, in the event of dispute, DOE will exercise its authority to conduct removal actions under Section 104 of CERCLA, 42 U.S.C. Section 9604, pursuant to Executive Order 12580 for Releases or threatened Releases covered by RCRA or KRS 224, Subchapter 46, only after exhausting the dispute resolution provisions of this Agreement. The terms of this Agreement shall not apply to those removal actions addressing Releases which are not covered by RCRA or KRS 224, Subchapter 46. Notwithstanding the foregoing, DOE will notify EPA and KNREPC of any removal actions which are not covered by RCRA or KRS 224 Subchapter 46, and, upon request, will provide copies of the work plans for such removal actions. The Parties understand that DOE is agreeing to notify EPA and KNREPC and provide requested copies of work plans for informational purposes only.

The Parties agree that removal actions shall generally be low-cost response actions, that deal with situations requiring a short-term response. Removal activity is not intended to supplant, compromise or foreclose RAs, including Interim RAs, at the Site. If a long-term remedy is planned, removal actions at

the Site may be used to mitigate the threat to human health and the environment until the RA can be implemented. Removal actions shall, to the extent practicable, contribute to the efficient performance of any anticipated long-term RA with respect to the Release concerned. In selecting an appropriate Removal Action, the parties shall take into consideration the removal actions outlined in section 300.415(d) of the NCP.

B. Removal Action Planning:

Except as otherwise provided by this Section, prior to initiating removal activities, DOE shall submit to EPA and KNREPC for review and approval, a written Removal Notification (the "Removal Notification"). Such submission shall be by return receipt mail or hand delivery.

DOE's Removal Notification shall include the removal site evaluation or summary of the administrative record constituting an equivalent removal site evaluation, a description of the factors considered in determining the appropriateness of the Removal Action (i.e., NCP §300.415(b)(2)), and any information produced through a remedial site evaluation, if any has been done previously, and the current site conditions, to determine if Removal Action is appropriate. The Removal Notification shall contain adequate specificity in defining the nature, extent and duration of the activity to permit meaningful review and comment.

The Removal Notification shall identify whether a planning period of at least six (6) months exists before on-Site activities must be initiated. The planning period shall commence upon submission of the Removal Notification. Removal actions for which a six month or longer planning period exists shall be defined as Non-Time critical. The Removal Notification for Non-Time Critical Removals shall include a schedule for submission of an EE/CA (as defined below.) All other removal actions shall be defined either as time-critical or emergency actions.

Except as otherwise provided herein, EPA and KNREPC shall review DOE's Removal Notification and shall respond with any comments and/or objections within thirty (30) Days of their receipt. EPA and KNREPC may request additional time, not to exceed twenty (20) Days, in which to respond to the Removal Notification. If EPA or KNREPC disagrees with the classification of an action as removal rather than remedial, or any other aspect of the proposed Removal Action, the disagreement shall be resolved in accordance with Section XXV (Resolution of Disputes) of this Agreement. All removal actions subject to dispute resolution shall be stayed until resolution of the dispute in accordance with Section XXV (Resolution of Disputes) of this Agreement. Unless otherwise provided herein, removal actions under the terms of this Agreement will be taken at the facility

if pursuant to this Agreement: 1) DOE determines that a Removal Action is appropriate and such determination is not disputed by EPA or KNREPC, or is resolved in favor of DOE in dispute resolution; or 2) EPA or KNREPC determines that a Removal Action is necessary and DOE agrees to perform such removal or such determination is resolved in favor of EPA or KNREPC in dispute resolution. EPA or KNREPC may require DOE to submit a Removal Notification. Such submission will be consistent with Condition II.E. of the EPA HSWA Permit or Condition IV.E. of the Kentucky Hazardous Waste Permit. DOE shall submit the Removal Notification within ninety (90) Days of receipt of the EPA or KNREPC request.

C. Emergency Removal Action/Imminent Hazard

An emergency Removal Action taken because of imminent and substantial endangerment to human health or the environment, may be taken by DOE without following the notice, Removal Notification and comment procedures of this Section, including the commitment to exhaust dispute resolution in Subparagraph A and the review and comment procedures of Subparagraph B, only if consultation (i.e., development, review and approval of the Removal Notification) would be impractical, considering the exigencies of the situation. In cases in which a Release at the

Site could cause imminent and substantial endangerment to the public health or welfare or the environment, DOE shall proceed as soon possible with the emergency Removal Action and notify EPA and KNREPC in accordance with Section 300.125 of the NCP and Conditions II.I. (Imminent Hazard) and I.D.14. (Twenty-Four Hour Reporting) of the EPA HSWA Permit and Conditions IV. I. and IV.D.14. of the Kentucky Hazardous Waste Permit. A description of the emergency and the technical specifications for the Removal Action, including any further action needed to complete the Removal Action, must be submitted in writing to EPA and KNREPC within fifteen (15) Days of the Release. The emergency Removal Action must be consistent with the provisions of NCP Section 300.415, and the RCRA Permits.

D. Time-Critical Removal Actions

Upon EPA and KNREPC approval of the Removal Notification for a proposed time critical removal action, DOE shall implement the selected removal action. The Removal Notification submitted for a proposed time critical removal action shall also meet the requirements of the Action Memorandum Primary Document and the IM Work Plan requirements of Section II.E.1.b of the EPA HSWA Permit and condition IV.E.1.b of the Kentucky Hazardous Waste Permit and shall include a proposed response action. DOE shall publish a notice of availability of

the administrative record for the selected removal action within sixty (60) Days of the initiation of on-Site removal activity in accordance with §300.415(m) of the NCP and the Administrative Record requirements of §300.820 of the NCP. Within thirty (30) Days after the close of the comment period, DOE shall respond to comments in a Time Critical Removal Action Responsiveness Summary Primary Document for EPA and Kentucky review and approval in accordance with Section XX of this Agreement. The approved Removal Notification and the Responsiveness Summary shall be included in the Administrative Record.

E. Non-Time-Critical Removal Actions

Upon EPA and KNREPC approval of a Removal Notification for a proposed non-time-critical Removal Action, and in accordance with the schedule in the approved Removal Notification, DOE shall submit to EPA and to the KNREPC for approval, a D1 Engineering Evaluation/Cost Analysis (EE/CA) Primary Document to further evaluate removal alternatives. Upon issuance of the Final EE/CA pursuant to Section XX (Review/Comment on Draft/Primary Documents), DOE shall make the Removal Notification, the EE/CA, and the Administrative Record available for public comment in accordance with NCP § 300.415(m) and shall comply with the Administrative Record requirements of NCP § 300.820. Within thirty (30) Days of the close of the

public comment period, DOE shall submit for EPA and Kentucky approval, a D1 Action Memorandum Primary Document which responds to public comments and describes the selected response action. Within thirty (30) Days of EPA and KNREPC approval of the Action Memorandum, DOE shall submit for EPA and KNREPC approval, a D1 Removal Work Plan Primary Document for the work to be performed in completing the selected alternative. The Removal Work Plan shall provide a concise description of the activities to be undertaken to comply with the requirements of this Agreement and shall meet the IM Work Plan requirements of Section II.E.1.b of the EPA HSWA permit and the requirements of Section IV.E.1.b of the Kentucky Hazardous Waste Permit. The Removal Work Plan shall also contain, but not be limited to, the following: 1) a health and safety plan; 2) a detailed design report (or schedule for submitting a detailed design report); and 3) a schedule for the completion of the work to be performed. Removal Work Plans requiring environmental sampling shall also include a sampling and analysis plan and a quality assurance project plan. Within fifteen (15) Days of EPA's and KNREPC's approval, DOE shall commence implementation of the approved final Removal Work Plan in accordance with the requirements and time schedules set forth in the approved Removal Work Plan.

F. Removal Action Document Review

Unless otherwise provided in this Agreement, any Removal Notification, EE/CA, Action Memorandum, Time-Critical Removal Responsiveness Summary, or Removal Work Plan to be submitted pursuant to this section is a Primary Document subject to review in accordance with Section XX (Review/Comment on Draft/Final Documents) of this Agreement. Any modification of a D1 or D2 Removal Action Primary Document shall be consistent with the purposes of this Agreement, CERCLA, the NCP, the EPA HSWA Permit and the Kentucky Hazardous Waste Permit, and EPA guidance and policy documents. The approved final EE/CA, Action Memorandum or Removal Work Plans required under this Section shall be incorporated into and be enforceable under this Agreement. Associated timetables and deadlines will be included in Appendix C and the SMP as appropriate.

XI. REMEDIAL INVESTIGATIONS

1. DOE shall develop and perform remedial investigations pursuant to this Agreement, CERCLA, the NCP, RCRA Sections 3004(u) and (v), and 3008(h), the RCRA Permits and the Corrective Action requirements of KRS 224 Subchapter 46. DOE agrees that it shall submit a D1 RI/FS Work Plan and conduct an RI for each Potential OU and CS OU, as defined in the most recently approved SMP. In accordance with this Agreement, an RI Report shall be prepared separately for any final RA. The RI/FS Work Plans and

RI Reports shall be developed in a format consistent with Appendix D to this Agreement. The work plan shall be submitted in accordance with the Timetables and Deadlines set forth in Appendix C of this Agreement. The D1 RI/FS Work Plans shall describe the plan for implementing the RI (including a Baseline Risk Assessment) and FS and shall be reviewed in accordance with Section XX (Review/Comments on Draft/Final Documents) of this Agreement. The scope of the RI and Baseline Risk Assessment shall reflect the scope of the response action for the OU under consideration. The RI/FS Work Plan shall describe how Interim RAs or removal actions, as defined under this Agreement, will be considered throughout the RI/FS to support a bias for action, as described in the NCP Program Management Principles (40 CFR 300.430(a)(1)(ii)).

2. For each of those areas in PGDP SWMU/AOC List of Appendix B to this Agreement, RIs shall be conducted which shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement. The SWMUs and AOCs in Appendix B shall be grouped into Potential OUs in the SMP to facilitate effective RI/FS scoping for the Site. For SWMUs and AOCs for which DOE is required to conduct an RFI pursuant to its RCRA Permits, the Parties agree that the RFI and RI shall be combined into a single investigation designed to meet the requirements of

both the RCRA Permits and the purposes of this Agreement, as described in Section IV.A. In accordance with the requirements of Section XIV (Proposed Plan(s)/Record(s) of Decision) to this Agreement, DOE will, at a minimum, submit D1 Proposed Plans to EPA and KNREPC for those Potential OUs and CS OUs listed in the most recently approved SMP. If EPA or KNREPC determine that Additional Work is necessary to complete the RI for such a unit, then DOE agrees, subject to the dispute resolution procedures in Section XXV (Resolution of Disputes), to conduct Additional Work at such unit, under the terms of this Agreement.

3. Consistent with Section XX.E (Review/Comment on Draft/Final Documents; Meetings of Project Managers) of this Agreement, for each RI/FS Work Plan, an RI/FS Scoping meeting will be held in an effort to develop a general consensus on the scope of the RI/FS Work Plan. The purpose of RI/FS scoping is to ensure that KNREPC, EPA and other stakeholders have the opportunity to provide input into designing the work plan so as to minimize comments on the D1 RI/FS Work Plan and thereby accelerate the review, comment and approval process. To facilitate this effort, DOE shall submit a D1 RI/FS scoping document for EPA and Kentucky review at least fifteen (15) Days prior to the RI/FS Scoping meeting. The scoping document may serve as a portion of the RI/FS Work Plan, thereby eliminating

duplication of efforts. The RI/FS Scoping Document shall be developed in a manner consistent with Appendix D to this Agreement.

XII. FEASIBILITY STUDIES

As specified herein, DOE agrees it shall conduct an FS for each Potential OU and CS OU, as defined in the most recently approved SMP, and in accordance with this Agreement. An FS shall be separately conducted for any OU carved out from a larger Potential OU or pursuant to Section XIV.B of this Agreement for the purpose of expediting Remedial Action. If an Interim RA is to be performed on an OU carved out in this manner, its separate FS may be limited as appropriate to the scope of that action. An FS shall be required when the Baseline Risk Assessment, for the Potential OU or a portion thereof, identifies a risk that requires an evaluation of remedial alternatives. At a minimum, an evaluation of alternative remedies (i.e., an FS) to address any Release shall be conducted when the circumstances listed below are present.

- The Baseline Risk Assessment shows that the cumulative carcinogenic risk for an individual exposed to a given Release, based on a reasonable maximum exposure for both current and future land

use, is greater than 10^{-6} , or;

- The Baseline Risk Assessment shows that the non-carcinogenic hazard quotient for an individual exposed to a given Release, based on a reasonable maximum exposure for both current and future land use, is greater than 1, or;
- The Release has caused adverse environmental impacts;
- Maximum Contaminant Levels, non-zero Maximum Contaminant Level Goals, or other Chemical-Specific ARARs are exceeded, or;
- Other site-specific or Release-specific circumstances warranting an evaluation of alternatives.

For each FS, a D1 report on the FS shall be submitted in accordance with the Timetables and Deadlines set forth in Appendix C of this Agreement. The D1 FS shall be reviewed in accordance with Section XX (Review/Comments on Draft/Final Documents). The FS shall be based on the RI and shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement. For SWMUs for which DOE is required to conduct a CMS pursuant to its RCRA Permits, the Parties agree that the CMS and

FS shall be combined into a single study designed to meet the requirements of both the RCRA Permits and the purposes of this Agreement. The FS Report shall be developed in a format consistent with Appendix D to this Agreement.

XIII. OPERABLE UNITS

The Site shall be segregated into Potential OUs and CS OUs for the purpose of scoping and planning RI/FS activities. Potential OUs shall be developed for source areas and CS OUs shall be developed for environmental media contaminated by commingled source releases. OUs for Interim or final RAs may be designated for all or any portion of a Potential OU or CS OU.

A. Potential Operable Units

Pursuant to Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings), DOE agrees that it shall develop a list of Potential OUs, which includes the units in Appendix B to this Agreement, to effectively manage the implementation of RI/FS activities for the site. Potential OUs shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement.

B. Comprehensive Site Operable Units

1. A Comprehensive Site (CS) OU is an OU which integrates the information obtained from Potential OU RI/FS activities regarding environmental media (i.e., surface water OU

and ground water OU) which has been contaminated by commingled source Releases. The final RA for any given CS OU shall be evaluated after issuance of all RODs concerning the environmental medium at issue and after completion (excluding long term monitoring and/or Operation and Maintenance) of all final RA(s) for the sources contributing to the commingled contamination. The environmental medium and the sources causing the commingled contamination shall be collectively evaluated under the final CS OU. For each CS OU for which there exists insufficient data to adequately characterize the nature and extent of any contamination, DOE shall develop and submit to EPA a CS OU RI/FS Work Plan (e.g., RI/FS Strategy for the environmental medium) and a RI Report to be finalized in accordance with Section XX (Review/Comment On Draft/Primary Documents) of this Agreement. The schedule for submission of each CS OU RI/FS Work Plan and RI Report shall be included in the appropriate annual Site Management Plan. The CS OU RI Report shall include a baseline risk assessment for the risk remaining at the Site associated with the CS OU and shall incorporate by reference all data collected pursuant to the RIs for any Interim remedial action OUs or Removal Actions being encompassed in the CS OU. The CS OU RI Report shall summarize all relevant CS OU RI data for the CS OU, including any data collected after the effective date of all RODs

for Interim RA OUs and removal actions collectively being evaluated under the CS OU. The CS OU RI shall also gather any additional sampling data if necessary to support the CS OU RI Report (including baseline risk assessment) and FS.

2. A final CS OU shall be designated upon issuance of the last final ROD for the Site. The final CS OU shall evaluate all RODs subject to review under Section XXX (Five Year Review) for a determination of whether any further RA will be necessary due to residual risks which resulted in Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents remaining at the site above levels that allow for unlimited use and unrestricted exposure under the applicable risk/exposure scenario.

C. Operable Units

DOE agrees that a proposed designation of RODs for OUs (OUs), including, as appropriate, OUs carved out from previously-identified Potential OUs, shall be included in its annual Site Management Plan. The Parties shall make selections of the OUs for the Site, annually, in accordance with Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings) of this Agreement, or as appropriate to support a bias for early response actions, as described in Section XIV.B of this Agreement. OUs may

incorporate other OUs for which remedies have already been selected in a ROD, where appropriate (i.e., Comprehensive Site OU, RODs containing final remedy decisions following Interim RAs) to ensure that multiple remedies continue to be protective of human health and the environment. OU(s) and Potential OUs shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement.

XIV. PROPOSED PLANS/RECORDS OF DECISION

A. Potential/Comprehensive Site Operable Unit Remedial Actions:

1. In accordance with the schedule in Appendix C and following completion of the review in accordance with Section XX (Review/Comment On Draft/Primary Documents) by EPA and KNREPC of the RI Reports and the corresponding FS Reports for those Potential OUs and CS OUs listed in the most recently approved SMP, DOE shall submit a D1 Proposed Plan(s) for RA(s), including proposed Timetables and Deadlines for the submittal of the RD Work Plan(s) and RA Work Plan(s), to EPA and KNREPC for review in accordance with Section XX (Review/Comment On Draft/Primary Documents) of this Agreement. Proposed Plans for Potential and CS OU final RAs shall be supported by a complete RI/FS (including a baseline risk assessment) in which the RI/FS data and evaluations to support the final RA are commensurate to the scope

of the proposed operable unit. Site-specific data needs, evaluation of alternatives and the appropriate documentation necessary to support a Proposed Plan for a Potential or CS OU for an RA shall reflect the scope and complexity of the site problems being addressed (Section 300.430(a)(1)(ii)(C)).

2. Subject to Section XL (Reservation of Rights) of this Agreement, EPA and/or KNREPC will develop a Statement(s) of Basis and a draft modified RCRA Permit(s) consistent with the approved Proposed Plan, pursuant to Condition II.G. of the EPA HSWA Permit and Condition IV.G. of the Kentucky Hazardous Waste Permit for selection of the WAG/WAG Group final remedy. Where practicable, and subject to Section XL (Reservation of Rights), EPA and KNREPC agree that the Statement of Basis and permit modification for such a final remedy will be contemporaneously developed and processed along with the Proposed Plan and ROD.

B. Expediting Actions under Remedial Authority:

Subject to Section XXV (Resolution of Disputes), any of the Parties may propose expediting Remedial Action for a part of any Potential OU listed in the most recently approved SMP, in accordance with CERCLA, the NCP, Condition II.E of the EPA HSWA Permit, and Condition IV.E. of the Kentucky Hazardous Waste Permit, so that an RA is performed on that part ahead of the time when the RA is scheduled for the entire OU as listed. By way of

example (but not of limitation), expediting Remedial Action might be considered for achieving significant risk reduction quickly and/or efficiently, to expedite the completion of total site cleanup, or to respond to some immediate site threat. RAs expedited in this manner may be either interim or final with respect to the OU being carved out for remediation ahead of the entire OU listed in the SMP. An Interim RA is limited in scope and shall be followed by a final RA that completes protection of human health and the environment through a final remedy decision.

Proposed Plans for final RAs shall be supported by a complete RI/FS (including a baseline risk assessment) in which the RI/FS data and evaluations to support the final RA are commensurate to the scope of the proposed OU being remediated on an expedited basis. Site-specific data needs, evaluation of alternatives and the documentation necessary to support a Proposed Plan for a selected remedy for an Interim RA shall reflect the scope and complexity of the site problems being addressed (Section 300.430(a)(1)(ii)(C) of the NCP). Few alternatives (in some cases only one) should be developed for Interim RAs, and completed baseline risk assessments generally are not necessary for Interim RAs when sufficient data is otherwise available to support interim action decisions.

C. Proposed Plan Review, Approval and Public Notice:

The Proposed Plans shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement. Following approval by the EPA and KNREPC pursuant to Section XX (Review/Comment On Draft/Primary Documents) of this Agreement, DOE shall publish the Final Proposed Plan for public review and comment in accordance with Section 117(a) of CERCLA, 42 U.S.C. § 9617(a), the NCP, EPA policy and guidance, and KRS 224 Subchapter 46 and the regulations promulgated pursuant thereto. The Parties agree that public notice of the Proposed Plan may be issued jointly with public notices of any proposed modifications of DOE's RCRA Permits. The period for public review shall be coordinated to meet NCP and the RCRA Permit requirements. Within ten (10) Days of the completion of the public comment period, all Parties shall confer with each other about the need for modification of the Proposed Plan and additional public comment based on the public response.

D. ROD Review, Approval and Final Issuance:

1. For purposes of expediting the ROD development and review, the Parties agree that the Draft Primary Document review process shall not apply. Instead, DOE shall submit, within thirty (30) Days of the close of the public comment period, and any extensions thereof, a Draft-Final ROD, including the responsiveness summary, to EPA and KNREPC in accordance with the

schedule in Appendix C. The Draft-Final ROD shall be developed in accordance with appropriate guidance, shall meet the purposes set forth in Section III (Purposes of Agreement) of this Agreement, and include proposed timetables and deadlines for submittal of the RD Work Plan(s). A review in accordance with Section XX (Review/Comment On Draft/Primary Documents) shall be conducted on the Draft-Final ROD. If the Parties agree on the Draft-Final ROD, the ROD shall be adopted by EPA, KNREPC and DOE, and then DOE shall issue the final ROD pursuant to CERCLA Section 120(e)(4). If, after exhausting the dispute resolution provisions of this Agreement, EPA and DOE are unable to reach agreement on a Draft-Final ROD, the selection of the RA shall be made by the Administrator of EPA, or his or her delegatee, and EPA shall then prepare the final ROD. The selection of the RA by the Administrator of EPA shall be final as to EPA and DOE and shall not be subject to dispute under Section XXV (Resolution of Disputes). If, after the dispute resolution process, KNREPC and EPA are unable to reach an agreement on RA selection, then KNREPC reserves its rights, if any, to impose a permit modification consistent with KNREPC's hazardous waste statutes and regulations and to enforce those requirements in accordance with Section XL (Reservation of Rights) of this Agreement.

2. Notice of the final ROD shall be published by DOE with

EPA and KNREPC's concurrence (provided that KNREPC concurs with the ROD), and shall be made available to the public prior to the commencement of the RA, in accordance with Sections 117(b),(c), and (d) of CERCLA, 42 U.S.C. §§ 9617(b),(c), and (d), RCRA and KRS Chapter 224 and the regulations promulgated thereunder. EPA and/or KNREPC shall propose any modifications necessary to the Corrective Action provisions of DOE's RCRA Permit in conjunction with the notice of the Proposed Plan and final ROD.

XV. REMEDIAL DESIGNS/REMEDIAL ACTIONS

The RD/RAs shall meet the purposes set forth in Section III (Purposes of this Agreement) of this Agreement and the RODs. In accordance with the schedule in Appendix C and following final issuance of each ROD, DOE shall submit a D1 RD Work Plan for the RA selected in the ROD for review in accordance with Section XX (Review/Comment on Draft/Final Documents). The RD Work Plans shall include appropriate Timetables and Deadlines for developing the design and submission of the secondary Intermediate RD Report(s) (e.g., 30 per cent design, 60 per cent design) and the D1 RD Report, and submission of a RA Work Plan. The secondary Intermediate RD Reports and the D1 RD Reports shall be reviewed in accordance with Section XX (Review/Comment on Draft/final Documents). In accordance with the schedule in Appendix C and the schedule in the approved RD Work Plans, DOE shall submit a D1

RA Work Plan with a schedule for implementing the selected RA and for submitting a Construction Quality Control Plan, a Post Construction Report, an Operation and Maintenance Plan, and a Final Remediation Report (as such terms are more fully defined in Appendix D.) The RA Work Plans, the Construction Quality Control Plans, the Post-Construction Reports, the Operation and Maintenance Plans and the Final Remediation Reports shall be reviewed in accordance with Section XX (Review/Comment on Draft/Final Documents). The parties acknowledge the requirement of CERCLA Section 120 (e)(2), 42 U.S.C. § 9620(e)(2), that substantial continuous physical on-Site RA commence within 15 months of completion of the RI/FS.

XVI. DELIVERABLES

DOE agrees to submit to EPA and KNREPC certain deliverables to fulfill the obligations and meet the purposes of this Agreement. A schedule for submittal of these deliverables shall be specified in Appendix C to this Agreement. Deliverables which include engineering plans for construction, modification or operation of environmental restoration facilities, or which describe RAs, shall be certified by a registered professional in accordance with applicable law. All Primary Document (as such term is hereinafter defined) deliverables shall be signed and certified in accordance with 40 CFR §270.11(d).

XVII. GUIDANCE

EPA agrees to provide DOE with guidance and policy in response to DOE's written request to assist DOE in the performance of the requirements under this Agreement. EPA shall respond to DOE's request within fifteen (15) Days of receipt of the written request. KNREPC agrees to respond within 15 days to any written request from DOE for information to assist DOE in the performance of the requirements under this Agreement.

XVIII. SITE MANAGEMENT, TIMETABLES AND DEADLINES, BUDGET PLANNING AND EXECUTION, COST AND PRODUCTIVITY SAVINGS

A. Site Management Plan

DOE shall submit a D1 annual Site Management Plan (SMP) each year to EPA, KNREPC and other Stakeholders no later than November 15, of each fiscal year (FY) for timetables, deadlines and projected activities pertaining to the next fiscal year (i.e., FY+1) and beyond. The currently effective annual SMP shall remain operative until the next annual SMP is finalized. KNREPC and EPA shall review and comment on the D1 SMP within thirty (30) Days of receipt. DOE shall revise the D1 SMP, if necessary, and submit a D2 SMP within fifteen (15) Days of receipt of EPA and KNREPC comments. The Parties agree to finalize the SMP in accordance with the provisions of Subsection I of Section XX (Review/Comment on Draft/Final Documents) of this Agreement. The

purpose of the SMP is to coordinate and document the selected OUs (including Potential OUs and CS OUs), removal actions and proposed removal actions (to the extent possible), work priorities, projected activities, and Timetables and Deadlines. The D1 SMP shall provide a list of the Potential OUs and CS OUs, as currently defined, based on information available in the current or previous fiscal years. The Potential OU and CS OU lists shall identify the SWMUs/AOCs in Appendix B to this Agreement which are included in each Potential OU and CS OU. A brief justification shall be provided for the inclusion of the SWMUs/AOCs in each Potential OU or CS OU. The SMP shall include a list of OUs, their ROD issuance dates, a brief description of their current RD/RA status and any published Explanation of Significant Difference. The SMP shall include an updated list of Removal Actions and a description of Removal Actions carried out during the previous fiscal year, in accordance with Section X (Removal Actions) of this Agreement. The SMP shall also include a section establishing priorities and Timetables and Deadlines for commitments and long-term projections, in accordance with this Section of the Agreement and based on consideration of other relevant factors, including but not limited to:

1. the logical progression toward cleanup;
2. the reduction of short-term and long-term human health and

environmental risk;

3. existing requirements of this Agreement;
4. the life-cycle cost of individual projects;
5. logistic, engineering, technical, and health and safety concerns related to proposed projects;
6. any impacts on related projects, including the costs and scheduling of such projects;
7. detrimental impacts of significant fluctuations in resource requirements from year to year;
8. DOE's management capabilities;
9. new or emerging technologies;
10. KNREPC's and EPA's oversight capabilities;
11. changing priorities as a result of new information;
12. views expressed by local elected officials;
13. views expressed by the public;
14. any consensus views expressed by the PGDP Citizens Advisory Board;
15. the Congressional budget appropriation, OMB apportionment, and DOE PGDP EM allotment for FY, as well as the PGDP EM allotment in the President's budget for FY+1 and associated outyear funding targets;
16. the completeness and accuracy of the scope, schedule, and costs for the tentative FY tasks;

- 17 the status of ongoing projects; and
18. costs savings initiatives and productivity improvements.

The parties to this Agreement recognize that the management of the Site remains solely a DOE responsibility; however, the development of the SMP shall include the input and consultation of EPA and KNREPC.

B. Scoping Work Priorities

DOE agrees to establish a basis for prioritizing response actions with the input and consultation of EPA and KNREPC, and to document the prioritization criteria in the annual SMP. The SMP prioritization criteria shall be used to prioritize the investigatory activities required for the Potential OUs and CS OUs identified in the annual SMP, and for identifying and implementing response actions. The D1 annual SMP shall identify the priorities by ranking the Potential OUs and CS OUs according to the prioritization criteria.

The D1 annual SMP shall include a list of commitments and long-term projections, developed in a manner consistent with the prioritization described herein, which identify the submittal dates for deliverables that correspond to work activities for FY+1 and FY+2, and any enforceable outyear commitments, ROD issuance dates for FY+1 and FY+2, ROD issuance target dates by fiscal year quarters for FY+3 and beyond for all Potential, CS

and RA OUs defined pursuant to this Agreement. DOE, KNREPC and EPA agree that the dates for FY+3 RODs and beyond will be nonenforceable and used by all Parties for planning purposes and to develop an understanding of the resource needs that the implementation and oversight of the environmental restoration activities will require. However, the outyear completion dates for the surface and ground water OUs shall be considered enforceable timetables and deadlines in accordance with the provisions of Subsection C (Timetables and Deadlines) of this Section. Commitments for FY+1 and FY+2 shall become current FY commitments in accordance with the provisions of Subsection C (Timetables and Deadlines) of this Section.

C. Timetables and Deadlines

Enforceable timetables and deadlines for current FY Commitments are contained in Appendix C to this Agreement. Enforceable timetables and deadlines for FY+1 and FY+2 commitments and completion dates for the surface and groundwater OUs are contained in the most recently approved annual SMP. Enforceable timetables and deadlines under this Agreement shall be limited to FY, FY+1, FY+2, and completion dates for the surface water and ground water OUs. The FY+1 timetables and deadlines in the most recently approved SMP shall be incorporated into Appendix C to this Agreement and shall become current FY

timetables and deadlines on October 1, FY+1.

D. Budget Planning

1. DOE shall use its best efforts and take all necessary steps to obtain sufficient and timely funding to meet all of its obligations under this Agreement. DOE's compliance with the Budget Planning and Execution provisions of this Agreement shall constitute compliance with the above standard. The Parties acknowledge Executive Order 12088's requirement that DOE include sufficient funds in its budget request to the President to support the activities and requirements to be conducted under this Agreement.

2. It is DOE's intent to identify, evaluate and implement opportunities to control project costs and increase productivity in meeting its obligations under this Agreement. EPA and KNREPC intend to assist DOE in its commitment to identify, evaluate and implement productivity gains and cost saving measures. The parties agree that budget targets provided by the Office of Management and Budget (OMB) and DOE-HQ shall be considered in establishing the requirements and schedule under this Agreement but further and specifically agree that the targets shall not strictly drive the requirements and schedule of this Agreement. In any action to enforce any provision of this Agreement, DOE may raise as a defense that its failure or delay was caused by the

unavailability of appropriated funds. Kentucky disagrees that an Anti-Deficiency Act Defense or any other defense based on the lack of appropriations or funding exists. However, Kentucky and DOE agree and stipulate that it is premature at this time to raise and adjudicate the existence of any such defense. Acceptance of this provision (or any other specific reservation of rights by Kentucky) does not constitute a waiver by DOE of its right to argue that its obligations under this Agreement are subject to the provisions of the Anti-Deficiency Act, 31 U.S.C. Section 1341.

3. DOE shall consult with EPA and KNREPC in formulating its annual Environmental Management (EM) budget for PGDP, including project work scope and management, priorities, and schedules/compliance dates. DOE shall provide EPA and KNREPC with all necessary information and briefings on the budget formulation, including funding information at the level of the Activity Data Sheet (ADS) (or its Project Baseline Summary (PBS) successor) or the work breakdown structure (WBS) level, if requested. EPA and KNREPC will continue to serve as ex-officio members of the Oak Ridge Reservation Environmental Restoration Prioritization Board which may serve as one of the means by which DOE provides EPA and KNREPC with budget formulation and project management information. In addition, DOE shall provide EPA and

KNREPC with budget and project information as follows:

a. Planning for FY and FY + 1

1. Prior to the submission of the annual SMP by DOE, (between July and October of each year), and for the purpose of providing early input into development of the annual SMP, the parties shall evaluate the FY and FY + 1 schedule, current projected cost and funding information, WBS summaries and any cost savings initiatives and productivity improvements. Further, during negotiations of Task Work Agreements (TWAs) and Incentive Task Orders (ITOs), DOE shall inform EPA and KNREPC of potential changes in project workscope and/or project costs from the workscope and/or project costs contained in previously approved primary documents or ADS (or its Project Baseline Summary (PBS) successor) cost estimates. Upon request, DOE shall provide copies of finally negotiated TWAs and ITOs to EPA and KNREPC. The parties recognize that the terms of TWAs and ITOs are developed through negotiations between DOE and its contractors and that the final terms of these contracts are not subject to the dispute resolution provisions of this Agreement. Notwithstanding the foregoing, the parties understand and agree that if project worksopes change from previously approved worksopes contained in primary documents, DOE shall submit such changes as a modification to the appropriate primary document.

The modification request shall be subject to review and approval by EPA and KNREPC and to the dispute resolution provisions of this Agreement.

2. Within thirty (30) days after Congressional appropriation of the FY budget, DOE shall brief EPA and KNREPC on the budget appropriation and proposed Environmental Management (EM) funding allocations for the new FY at the level of the ADS (or its Project Baseline Summary (PBS) successor) or below, if requested. If there is a delay in Congressional appropriations beyond the first of the new federal fiscal year, DOE shall inform EPA and KNREPC of any continuing resolution action and the impact of the delay on its ability to meet the requirements of this Agreement. EPA and KNREPC will review this information and may recommend reallocation of available funds.

3. Within ten (10) days of the DOE EM allotments to ORR, DOE-ORR shall brief EPA and KNREPC on the DOE-ORR EM allotments at the level of the ADS (or its Project Baseline Summary (PBS) successor) or below, if requested.

4. After receipt of the DOE EM allotments to PGDP, but no later than sixty (60) Days after OMB's apportionment of the DOE's FY EM appropriation, the parties shall evaluate all projects scheduled for FY and FY + 1 in light of the factors in Section XVIII.A. and cost and productivity savings and determine if the

PGDP EM allotment exceeds or is less than the projected costs for the proposed work. If the PGDP EM allotment is greater than the projected costs, DOE shall propose additional work or an acceleration of scheduled work at PGDP. DOE may propose using part or all of the excess allotment for activities not covered by this agreement. EPA and KNREPC will review the proposals and may approve changes in the FY and FY + 1 Timetables and Deadlines in Appendix C.

5. If DOE believes that adequate funds or appropriations are not available to comply with the FY obligations of this Agreement, DOE shall nonetheless make a good faith effort to comply with the enforceable commitments for FY. A good faith effort may, but does not necessarily, include one or more of the following actions: rescoping or rescheduling the work being performed under this agreement consistent with the enforceable commitments, developing and implementing new productivity or cost-saving measures, requesting re-allotments or reprogramming of appropriated funds, and seeking supplemental appropriations.

6. If DOE believes that adequate funds or appropriations are not available to comply with the FY obligations of this Agreement, DOE may submit a request within forty-five (45) business days of PGDP's budget allotment to modify the enforceable Timetables and Deadlines for the current FY

commitments contained in Appendix C in accordance with Section XXXIX (Modification of Agreement) and this subsection to the Agreement. The request must include a draft revised Appendix C.

KNREPC and EPA shall review and comment on the draft revised Appendix C within fifteen (15) business days of receipt. Within fifteen (15) business days of receipt of KNREPC and EPA comments, DOE will revise, if necessary, the draft revised Appendix C and submit a D2 Appendix C. The parties agree to finalize Appendix C in accordance with the provisions of Subsection I of Section XX (Review/Comment on Draft/Final Documents) of this Agreement and to incorporate necessary revisions to Appendix C approved in accordance with this Subsection into this Agreement, in accordance with Section XXXIX (Modification of Agreement) of this Agreement. Also, at any other time DOE learns that adequate funds or appropriations are not available, it shall notify EPA and KNREPC within thirty (30) Days of learning such information.

7. KNREPC and EPA will consider the following factors in reviewing a request for a revision of the Timetables and Deadlines in Appendix C: DOE's efforts to comply with the requirements of paragraph D.a.5 of this section; public comments received; consensus views of the PGDP site-specific advisory board; the impact of the proposed revision on human health and the environment; the impact of the revision on project

management, life-cycle costs and logistic, technical, and engineering issues related to the project; new or emerging technologies; new technical or characterization information; site priorities identified through consultation among DOE, EPA, KNREPC and the public; the Congressional budget appropriation, OMB apportionment, and DOE-ORR and PGDP EM allotment for FY; DOE's efforts to achieve project cost savings and increases in productivity; and other relevant factors.

b. Planning for FY + 2

1. DOE PGDP shall provide EPA and KNREPC with information on the EM planning budget for fiscal year + two (FY +2), within seven (7) Days of DOE PGDP receiving such information, including any information on OMB and DOE-HQ target funding guidance. Within twenty-one (21) Days of DOE-PGDP receiving target funding guidance, DOE-PGDP shall provide EPA and KNREPC with a preliminary assessment of its impacts at PGDP. DOE shall also provide a copy of PGDP's initial contractor budget guidance to EPA and KNREPC within two (2) weeks after its issuance.

2. By February 1 of each year, DOE shall prepare a draft Integrated Priority List for PGDP. DOE shall provide EPA and KNREPC with a copy of its draft Integrated Priority List for PGDP and an assessment of the budget targets on site priorities by February 15 of each year. The list shall prioritize all PGDP

waste management and environmental restoration activities (including all enforceable commitments of this Agreement) and may include other site activities, as appropriate.

3. Between February 1 and the date that DOE submits its annual budget request and supporting ADS (or its Project Baseline Summary (PBS) successor) for PGDP EM activities to DOE-HQ, DOE, EPA and KNREPC shall meet and discuss project work scope, priorities, and funding levels required to comply with the obligations of this Agreement. DOE may revise its budget request and supporting documentation in response to issues raised by EPA and KNREPC during this timeframe. In the event that issues are not resolved with DOE, DOE shall submit with its budget request to DOE-HQ an outline of any unresolved issues identifying the issues, and DOE's and EPA's and KNREPC's respective positions with respect to those issues, along with an estimate of the funding necessary to meet the requirements and obligations of this Agreement. In addition, if EPA or KNREPC disagree with DOE's assessment, they may jointly or individually prepare an assessment of the impacts as it relates to PGDP and DOE shall include a copy of the assessment(s) and any comments with its budget request to DOE-HQ. DOE shall provide EPA and KNREPC with a complete copy of the budget request and attached documentation relating to PGDP that is sent to DOE-HQ.

4. After submission of the PGDP EM budget request to DOE-HQ, and prior to submission of the EM budget request to the Secretary of DOE, it is DOE's intent to provide EPA and KNREPC with a copy of any additional written analyses of the proposed PGDP budget and/or potential changes to the proposed PGDP EM budget and any analyses of associated potential impacts on work required under this Agreement sent from PGDP or DOE-ORR to DOE-HQ concerning the PGDP EM budget, subject to a claim of privilege by DOE. In the event of a claim of privilege, DOE shall provide EPA and KNREPC with an explanation setting forth the basis for the claim of privilege. In the event that DOE changes its intent to provide EPA and KNREPC with the documentation required by this paragraph, DOE shall provide EPA and KNREPC with a written explanation as to why such documentation will no longer be provided. DOE's decision is not subject to the dispute resolution provisions of this Agreement.

5. If the issues raised by EPA and/ or KNREPC are not resolved prior to DOE's submission of its budget request to the Office of Management and Budget (OMB), DOE shall include an outline of any unresolved issues at PGDP identifying the issues and DOE's and EPA's and/or KNREPC's respective positions with respect to those issues, including any comments submitted by EPA and/or KNREPC and an estimate of the funding necessary to meet

the requirements of this Agreement with DOE-HQ's budget request submitted to the OMB.

6. Within 10 days of the President's submission of the FY + 1 budget to Congress, DOE shall submit to EPA and KNREPC a summary of the budget request forwarded to DOE-HQ by DOE-ORR and submit to EPA and KNREPC the DOE-PGDP budget request contained in the President's budget.

7. Within thirty (30) days after the President's submission of the FY + 1 budget to the Congress, DOE shall brief EPA and KNREPC on the President's budget request as it relates to the PGDP at the level of detail of the ADS (or its Project Baseline Summary (PBS) successor) or below, if requested. At this briefing, DOE shall provide EPA and KNREPC with a written description of the funding levels included in the President's budget request as it relates to PGDP and identification of any differences between these levels and the levels necessary to comply with the terms of this Agreement, along with an assessment of the impacts these differences may have on DOE's ability to meet its requirements under this Agreement.

E. Budget Execution for the Current FY

1. During the regularly scheduled project manager meetings, the project managers in their review of the progress of projects scheduled for the year shall discuss potential cost

savings initiatives and productivity gains for the projects.

2. DOE shall provide EPA and KNREPC with copies of any PGDP program execution guidance at the same time it is provided to DOE's contractors. DOE shall consult with EPA and KNREPC in reviewing WBS summaries prepared by the contractors.

3. Throughout the FY, DOE shall promptly notify EPA and KNREPC of any proposed site-specific or major programmatic action, if such action is likely to have an impact on DOE's ability to meet the requirements of this Agreement. DOE shall consider any comments made by EPA or KNREPC in implementing the proposed action.

4. Within thirty (30) days of the completion of DOE's annual midyear management review, DOE shall brief EPA and KNREPC on any decisions that affect compliance with the requirements of this Agreement.

5. DOE agrees to notify the EPA and KNREPC when it provides confidential budget information to EPA and KNREPC. EPA and KNREPC agree not to release confidential budget information to any other entities prior to submission of the President's budget request to Congress, unless authorized by DOE or required to do so by the Kentucky Open Records Act (KRS 61.870 et seq.), by federal statute or regulation, or by court order. DOE may seek to intervene in any proceeding brought to compel or enjoin

release of this information. If allowed to intervene, DOE may assert its interest in, and the legal basis for, maintaining the confidentiality of this information.

6. DOE shall provide EPA and KNREPC with a copy of the reports specified in section 3153 of the Defense Authorization Act for fiscal year 1994 within 10 days of their submission to Congress.

7. Neither the process described above, nor EPA and KNREPC's participation in the process, waives their position that the Executive Branch is obligated to seek full funding for all activities required by this Agreement and that DOE's failure to obtain adequate funds or appropriations from Congress does not in any way relieve DOE from its obligation to comply with this Agreement. If adequate funds or appropriations are not available to fulfill DOE's obligations under this Agreement, EPA and KNREPC may pursue any remedy they have under this Agreement or exercise any of their statutory or regulatory authority. In addition, acceptance of the process by DOE-PGDP does not constitute a waiver by DOE of its position that its obligations under this Agreement are subject to the availability of appropriated funds and the provisions of the Anti-Deficiency Act, 31 U.S.C. Sec. 1341.

8. The participation by EPA and KNREPC in DOE's budget planning and execution process under this Section is limited solely to the

process set forth herein and shall in no way be construed as allowing EPA and/or KNREPC to become involved with the internal DOE budget process. Furthermore, nothing herein shall affect DOE's authority over its budgets and funding level submissions.

F. Cost and Productivity Savings

1. The parties agree to consult during the site budget planning and execution processes to identify opportunities and develop and implement approaches for achieving cost and productivity savings in implementing this agreement. The parties agree that the approaches for achieving cost and productivity savings should include, inter alia, review of the standards, requirements, and practices of managing and conducting activities at PGDP to ensure that the objectives of this Agreement are carried out in an efficient and cost-effective manner, as well as efforts to control project scopes, as much as is practicable, to scopes originally agreed upon to provide for the maximum utilization of available allocated funding to implement this Agreement.

Notwithstanding the foregoing, the parties understand that it may be necessary in some circumstances to alter project scopes based on regulatory or other requirements. Furthermore, while the parties recognize the value of identifying and implementing cost savings measures and productivity improvements, the Parties agree that the identification and implementation of such measures is a

goal, and not a requirement, of this Agreement. This Section and Section 4.4 of the SMP set forth the process by which certain percentages of cost and productivity savings will presumptively remain at the PGDP and be applied to activities required under this Agreement.

2. In the event that projects achieve cost and productivity savings that result in excess funds being available after all enforceable commitments under this Agreement have been met within a fiscal year, subject to Paragraph 4 below, a portion of the funding not contractually obligated will stay at the PGDP site and be reallocated to support other work at the site. Cost and productivity savings realized during a given fiscal year may be carried over for performance of other work in subsequent years. DOE will confer with EPA and KNREPC in identifying the other work at PGDP to which any realized cost and productivity savings will be applied. Such other work may include work not required pursuant to this Agreement. If EPA or KNREPC disagrees with DOE's identification of other work to which realized cost and productivity savings will be applied, EPA or KNREPC may invoke the dispute resolution provisions of this Agreement.

3. The Parties understand and agree that mere deferral of work and associated costs shall not constitute "cost and productivity savings" within the meaning of this Agreement.

4. The reallocation process set forth in this Section and Section 4.4 of the SMP shall be utilized to ensure that cost and productivity savings in implementing this Agreement presumptively remain at the PGDP site in accordance with the following schedule:

FY 1997 -- no less than 60% of cost and productivity savings
FY 1998 -- no less than 75% of cost and productivity savings
FY 1999 and beyond -- no less than 90% of cost and productivity savings.

5. To the extent that cost and productivity savings are attributed to any DOE contractor at the Site performing activities required under this Agreement, the percentages cited herein apply to cost and productivity savings remaining after any contractual obligations are paid to any such contractor.

6. The presumption that cost and productivity savings will remain at PGDP may be overcome in cases where DOE determines that imminent danger or significant threat to human health or the environment exist at another site, and the application of PGDP cost and productivity savings is necessary to abate such danger or threat. DOE will consult with KNREPC and EPA prior to making a determination to apply any portion of cost and productivity savings to another site. Determinations with respect to overcoming the presumption that cost and productivity savings

will stay at PGDP lie within DOE's sole discretion and shall not be subject to the Dispute Resolution provisions of this Agreement.

XIX. ADDITIONAL WORK

A. In addition to the provisions of Section XX (Review/Comment On Draft/Primary Documents) of this Agreement, either EPA or KNREPC may at any time request Additional Work, including field modifications, remedial investigatory work, or engineering evaluations, which they determine necessary to accomplish the purposes of this Agreement, when the basis for modifying a primary document, as specified under Section XX.J of this Agreement, cannot be demonstrated. Such requests shall be in writing to DOE, with copies to the other Parties. DOE agrees to give full consideration to all such requests. DOE may either accept or reject any such requests and shall do so in writing, together with a statement of reasons, within forty-five (45) Days of receipt of any such request. If there is no agreement concerning whether or not the requested Additional Work or modification to work should be conducted, then dispute resolution may be invoked by DOE within thirty (30) Days after DOE's submission of its written rejection of the request for such Additional Work or modification of work.

B. Should Additional Work be required pursuant to this

Section, the appropriate work plan shall be amended and proposed by DOE for review and approval by EPA and KNREPC. Appendix C to this Agreement shall be modified if necessary in accordance with Section XXXIX (Modification of Agreement) of this Agreement.

C. The discovery of previously unknown sites, Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents or other significant new Site conditions, including newly acquired information concerning residual risk, may be addressed as Additional Work under this Section.

D. Any Additional Work or modifications to work proposed by DOE shall be proposed in writing to the other Parties and shall be subject to review in a Primary Document (or modification to an existing Primary Document) in accordance with Section XX (Review/Comment on Draft/Final Documents) of this Agreement. DOE shall not initiate such work prior to review and approval by EPA and KNREPC, except for emergency Removal Actions taken under Subsection X.B (Removal Actions).

E. Any Additional Work or modification to work agreed to or required under this Section, shall be completed in accordance with the standards, specifications, and schedules determined or approved by EPA and KNREPC and shall be governed by the provisions of this Agreement.

XX. REVIEW/COMMENT ON DRAFT/FINAL DOCUMENTS

A. Applicability

The provisions of this Section establish the procedures that shall be used by DOE, EPA and KNREPC to provide the Parties with appropriate notice, review, comment, and response to comments regarding documents specified herein as either primary or secondary documents. In accordance with Section 120 of CERCLA, 42 U.S.C. § 9620, and the RCRA permits, DOE shall be responsible for issuing primary and secondary documents to EPA and KNREPC. As of the effective date of this Agreement, all D1 and D2 documents and reports that are required to be submitted to EPA and KNREPC under this Agreement, as identified herein, shall be prepared and distributed in accordance with Subsections B through J, below. All documents shall be clearly labeled as primary or secondary, and as D1, D2 or Final. All primary and secondary documents shall meet the requirements of CERCLA, the NCP, KRS 224 Subchapter 46, the RCRA Permits, and be consistent with relevant guidance issued by EPA.

The designation of a document as D1 or D2 is solely for purposes of consultation with EPA, KNREPC and other Stakeholder in accordance with this Section.

B. General Process for Document Review

1. Primary Documents are those documents identified in

Subsection C.1 herein, for all response actions at the Site. Primary Documents are initially issued by DOE in draft subject to review and comment by EPA and KNREPC. Following receipt of comments on a particular D1 Primary Document, DOE will respond to comments received and issue a D2 Primary Document subject to EPA and KNREPC approval.

2. Secondary Documents typically include those documents that are discrete portions of the Primary Documents and are typically feeder documents. Secondary Documents are issued by DOE in draft subject to review and comment by EPA and KNREPC.

Although DOE must respond to comments received, the D1 Secondary Documents may be finalized in the context of the corresponding Primary Documents. A Secondary Document may only be disputed at the time the corresponding D2 Primary Document is submitted.

3. The Parties agree that plans and reports prepared by DOE for SWMUs/AOCs subject to the Corrective Action requirements of its RCRA Permits, as well as the review of such plans and reports by EPA and KNREPC, shall be combined into a single document with its corresponding CERCLA counterpart designed to meet the requirements of both the RCRA Permits and this Agreement.

C. Primary Documents

1. DOE shall complete and transmit the following D1

Primary Documents to EPA and KNREPC for review and comment in accordance with the provisions of this Section:

- a. Community Relations Plan;
- b. RI/FS Work Plans;
- c. RI Reports;
- d. Baseline Risk Assessment Reports;
- e. FS Reports;
- f. Proposed Plans;
- g. Records of Decision;
- h. Remedial Design Work Plans;
- i. Final Remedial Design Reports;
- j. Remedial Action Work Plans;
- k. Final Remediation Reports
- l. Site Management Plans;
- m. Removal Work Plans;
- n. Engineering Evaluation/Cost Analyses (EE/CA);
- o. Action Memoranda;
- p. Data Management Plan;
- q. Site Evaluation Reports;
- r. Time-Critical Responsiveness Summaries; and
- s. Removal Notification.

2. The RD Reports may be submitted in phased packages when necessary to expedite construction work under this Agreement. In such cases, the RD Work Plan shall describe the phased submittals and identify the RD submittals which shall be considered Primary Documents for purposes of Section XLIII (Stipulated Penalties) under this Agreement.

3. Only the D2 Documents for the Primary Documents identified above shall be subject to dispute resolution. DOE shall complete and transmit D1 Primary Documents in accordance with Section XVIII (Site Management, Timetables and Deadlines,

Budget Planning and Execution, Cost and Productivity Savings) of this Agreement.

4. A D1 Primary Document may not be required for an OU if: (a) the same Primary Document completed or to be completed with respect to another OU addresses all required elements of the subject OU, and, (b) the Parties agree in writing that such a Primary Document for the subject OU is adequately addressed in another Primary Document. The Parties agree to merge or combine multiple documents (including secondary documents), whenever appropriate, in an effort to accelerate the documentation process.

D. Secondary Documents

1. DOE shall complete and transmit drafts of secondary documents to EPA and KNREPC for review and comment in accordance with the provisions of this Section. The following list contains examples of secondary documents:

- a. Sampling and Analysis Plans;
- b. Preliminary Risk Assessment Reports;
- c. Preliminary Characterization Summary;
Reports;
- d. Screening/Analysis of Alternatives;
- f. Treatability Study Reports;
- g. Fiscal Year Quarterly Progress Reports;

- h. RI/FS Scoping Document;
- i. Field Sampling Plans;
- j. Quality Assurance Project Plans;
- k. Health and Safety Plans;
- l. Sampling and Analysis Results;

- m. Chain of Custody Forms;
- n. Request for Analysis Forms;
- o. Computer Models and Technical Databases;
- p. Minutes of Public Meetings;
- q. Public Meeting Transcripts;
- r. Administrative Record Index;
- s. Results of Community Interviews;
- t. Responsiveness Summaries;
- u. Intermediate Remedial Design Reports
(eg., 30%, 60%, etc.);
- v. Removal Site Evaluations;
- w. Construction Quality Control Plans;
- x. Post-Construction Reports; and,
- y. Operation and Maintenance Plans.

2. Although EPA and KNREPC may comment on the D1 secondary documents, such documents shall not be subject to dispute resolution except as provided by Subsection B hereof. In lieu of providing comprehensive comments on a D1 Secondary document, EPA and KNREPC may comment or provide comments identifying major issues. At a minimum, it is EPA's and KNREPC's intent to provide comments on secondary documents to ensure that major issues are identified which may negatively impact review and approval of a subsequent primary document and/or to ensure that site activities are progressing consistent with the requirements of this Agreement and the RCRA Permits. Failure of EPA and/or KNREPC to comment on a secondary document does not constitute EPA and/or KNREPC approval of the secondary document. Secondary documents shall be identified and target dates shall be established for the completion and transmission of

D1 secondary documents within Primary Documents (e.g., work plan primary documents) pursuant to Section XVIII (Site Management, Timetables and Deadlines) of this Agreement. When secondary documents are developed and submitted independent of primary documents, then DOE shall identify target dates for such secondary documents.

E. Meetings of Project Managers

The Project Managers shall meet approximately every forty-five (45) Days, except as otherwise agreed by the Parties, to review and discuss the progress of work being performed at the Site and to discuss the progress of work being performed on Primary and Secondary Documents. The Parties shall hold RI/FS scoping meetings pursuant to Section XI (Remedial Investigations) as early as possible and in accordance with the SMP to effect a meaningful exchange of information/expectations prior to the date D1 RI/FS Work Plans are due. Prior to preparing any D1 document specified in Subsections C and D above, the Parties may confer as necessary to discuss the documents in an effort to reach a common understanding.

F. Identification and Determination of Potential ARARs

1. For those Primary Documents or secondary documents that consist of or include ARAR determinations, prior to DOE's issuance of such a D1 document, the Parties shall confer to

identify and propose, to the best of their ability, all potential ARARs pertinent to the document being addressed including any permitting requirements which may be a source of ARARs. DOE shall initiate ARARs identification during the initial stages of development of such primary or secondary documents by performing a comprehensive evaluation of possible ARARs. DOE shall notify EPA and KNREPC, as early as possible, of the status of the ARAR evaluation in order to permit a meaningful review of the potential ARARs by EPA and KNREPC. EPA and KNREPC may request additions or deletions to the ARARs list prior to DOE's formal submission of the document. Kentucky will identify potential state ARARs as required by CERCLA Section 121(d)(2)(A)(ii), 42 U.S.C. § 9621(d)(2)(A)(ii). Draft ARARs determinations shall be prepared by DOE in accordance with Section 121(d)(2) of CERCLA, 42 U.S.C. § 9621(d)(2), the NCP, and pertinent guidance issued by EPA.

2. In identifying potential ARARs, the Parties recognize that actual ARARs can be identified only on an Operable Unit-specific basis and that ARARs depend upon the specific Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents at a site, the particular actions proposed as a remedy and the characteristics of an Operable Unit. The Parties recognize that ARARs identification

is necessarily an iterative process and that potential ARARs must be re-examined throughout the RI/FS processes until the ROD is issued.

3. Nothing in this Agreement or this Section of the Agreement shall be construed to affect KNREPC's Reservation of Rights.

G. Review and Comment on Documents

1. DOE shall complete and transmit each D1 Primary Document to EPA and KNREPC on or before the corresponding deadline established for the submittal of the document established pursuant to Section XVIII (Site Management, Timetables and Deadlines, Budget Planning and Execution, Cost and Productivity Savings) of this Agreement. DOE shall complete and transmit the D1 Secondary Document in accordance with the target dates established for the issuance of such documents according to the approved schedules within the appropriate Work Plans.

2. Unless the Parties mutually agree to another time period, or unless otherwise specified in this Agreement, all D1 Primary Documents shall be subject to the review/comment period specified in Appendix F for the given document under review. All D2 Primary Documents shall be subject to a thirty (30) Day period of review. All D1 Secondary Documents shall be subject to a ninety (90) Day period of review unless the Parties mutually

agree to another time period, or if the ninety (90) Day review period would conflict with the review of the corresponding primary document, in which case an alternative period of review for the secondary document shall be specified in the annual SMP, the associated primary document, or other written Agreement. Review of any document by the EPA and KNREPC may concern all aspects of the document (including its completeness) and should include, but is not limited to, technical evaluation of any aspect of the document and consistency with CERCLA, the NCP, the RCRA Permits and any pertinent guidance or policy promulgated by EPA. Comments by EPA and KNREPC shall provide adequate specificity so that DOE may respond to the comments and, if appropriate, make changes to the D1 document. Comments shall refer to any pertinent sources of authority or references upon which the comments are based, and, upon request of DOE, EPA and KNREPC shall provide a copy of the cited authority or reference.

In cases involving complex or unusually lengthy reports, EPA and KNREPC may extend the review period for D1 and D2 Primary Documents an additional thirty (30) Days by written notice to DOE prior to the end of the review period. In extenuating circumstances, this period may be further extended in accordance with Section XXIX (Extensions) of this Agreement. On or before the close of the review/comment period, EPA and KNREPC shall

transmit their written comments to DOE.

3. Representatives of DOE shall make themselves readily available to EPA and KNREPC during the review/comment period for purposes of informally responding to questions and comments on D1 documents. Oral comments made during such discussions need not be the subject of a written response by DOE at the close of the review/comment period.

4. In commenting upon a D1 document which contains a proposed ARAR determination, EPA or KNREPC shall include a reasoned statement of whether it objects to any portion of the proposed ARAR determination. To the extent that EPA and/or KNREPC objects, it shall explain the bases for its objection in detail and shall identify any ARARs which it believes were not properly addressed in the proposed ARAR determination.

5. Following the close of the review/comment period for a D1 document, DOE shall fully address all EPA and KNREPC written comments on the D1 document submitted during the review/comment period by revising the document or providing an adequate response as to why the document does not require revision in response to the comment. Within forty-five (45) Days of the receipt of comments on a D1 Secondary Document, DOE shall transmit to EPA and KNREPC its written response to comments received within the review/comment period. The D1 Secondary

Document may be revised and submitted with the appropriate D1 or D2 Primary Document. Within the time period specified in Appendix G for DOE response to comments on a D1 Primary Document, DOE shall transmit to EPA and KNREPC the D2 Primary Document, which shall include DOE's response to all EPA and KNREPC written comments received within the review/comment period.

6. DOE may extend the period specified in Appendix G for responding to comments on a D1 document and issuing the D2 Primary Document for an additional thirty (30) Days by providing written notice to EPA and KNREPC. In extenuating circumstances, this time period may be further extended in accordance with Section XXIX (Extensions) of this Agreement.

H. Availability of Dispute Resolution for D2 Primary Documents

1. Dispute resolution shall be available to the Parties for D2 Primary Documents as set forth in Section XXV (Resolution of Disputes).

2. When dispute resolution is invoked on a D2 Primary Document, work may be stopped in accordance with the procedures set forth in Section XXV (Resolution of Disputes).

I. Finalization of Documents

Within the time period for review of a D2 Primary Document, including any extensions thereof, both EPA and KNREPC

shall either issue a letter of concurrence, a letter of conditional concurrence, or a letter of non-concurrence. The letter of conditional concurrence shall specify the conditions which must be satisfied in the subject Primary Document and shall either: 1) specify a due-date for resubmission of the revised D2 Primary Document and specify the revisions which must be made to the document (generally for reports); or, 2) specify the document's effective date and list the conditions which must be met (generally for work plans). The letter of non-concurrence shall describe the basis for non-concurrence and serve to invoke informal dispute in accordance with Section XXV.B (Resolution of Disputes) of this Agreement.

The period for review of the D2 Primary Document terminates upon EPA and KNREPC issuance of a letter of concurrence, conditional concurrence, or non-concurrence. In accordance with Section XXV (Resolution of Disputes) of this Agreement, DOE may invoke dispute resolution regarding a conditional concurrence or nonconcurrence. If KNREPC and EPA fail to issue a letter of concurrence, non-concurrence, or conditional concurrence within the time period for review, including all extensions thereof, then DOE will be presumed to have good cause for a request for an extension pursuant to Section XXIX (Extensions) hereof.

The D2 Primary Document shall become the Final Primary

Document upon DOE receipt of EPA and KNREPC written concurrence or, upon receipt of EPA and KNREPC letters of conditional concurrence which specify the required changes to the Primary Document, provided that the changes are made, or if dispute resolution is invoked, at completion of the dispute resolution process should DOE's position be sustained. If DOE's determination is not sustained in the dispute resolution process, DOE shall prepare, within not more than sixty (60) Days, a revision of the D2 Primary Document which conforms to the results of dispute resolution. In appropriate circumstances, the time period for this revision period may be extended in accordance with Section XXIX (Extensions) of this Agreement.

J. Subsequent Modifications of Final Documents

Following finalization of any Primary Document pursuant to Subsection I, above, EPA, KNREPC, or DOE may seek to modify the document, including seeking additional field work, pilot studies, computer modeling or other supporting technical work, only as provided in Subsections J.1 and 2, below.

1. EPA, KNREPC, or DOE may seek to modify a document after finalization if it determines, based on new information (e.g., information that became available, or conditions that became known, after the document was finalized) that the requested modification is necessary. Any party seeking

modification may seek such a modification by submitting a concise written request to persons designated to receive notice pursuant to Section XXIV of this Agreement. The request shall specify the nature of the requested modification and how the request is based on new information.

2. In the event that a consensus is not reached by the Parties on the need for a modification, any of the Parties may invoke dispute resolution to determine if such modification shall be made. Modification of a document shall be required only upon a showing that: (1) the requested modification is based on new information; and (2) the requested modification could be of significant assistance in evaluating impacts on the public health or the environment, in evaluating the selection of remedial alternatives, or in protecting human health and the environment.

3. Nothing in this Subsection shall alter either EPA's or KNREPC's ability to request the performance of Additional Work pursuant to Section XIX (Additional Work) of this Agreement which does not constitute modification of a final document.

K. EPA/KNREPC Review and Comment Coordination

To the extent practicable, EPA and KNREPC intend to coordinate their review of documents and consult on major issues raised during such reviews prior to submission of their individual comments to DOE. However, this provision shall in no

way preclude EPA and KNREPC from submitting comments to DOE which may conflict. If such conflicts cannot be resolved during preparation of the D2 document or the D2 review period, and any extensions thereof, the dispute may be resolved in accordance with Section XXV of this Agreement (Resolution of Disputes).

XXI. PERMITS

A. The Parties recognize that under Section 121 (e)(1) of CERCLA, 42 U.S. C. § 9621(e)(1), portions of the response actions required by this Agreement and conducted entirely on the Site are exempted from the procedural requirement to obtain federal, state, or local permits, when such response action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S. C. § 9621. It is the understanding of the parties that the statutory language is intended to avoid delays of on-Site response actions, due to procedural requirements of the permit process. The parties agree that: (a) any activity required under a ROD or hazardous waste permit modification in which KNREPC concurred; (b) decommissioning activities; (c) removal actions for hazardous substances that are also hazardous wastes or hazardous constituents performed in accordance with Section X (Removal Actions); and (d) remedial or removal actions for hazardous substances that are not also hazardous wastes or hazardous constituents (e.g., radionuclides that are not mixed

wastes or PCBs) are being approved, at least in part, pursuant to CERCLA authorities. Therefore, no permits are required for these activities. DOE agrees to seek and implement any federal, state, or local permit, including RCRA or KNREPC hazardous waste permit, for operations or processes required to implement activities regulated under this Agreement, other than those listed in (a) - (d) above. However, this Agreement does not supersede, modify, or otherwise change the requirements of DOE's existing RCRA permits or DOE's requirement to modify its existing RCRA permits consistent with the terms of this Agreement. Further, when DOE proposes a response action to be conducted entirely on-site which in the absence of CERCLA Section 121(e)(1) and the NCP would require a federal or state permit, DOE shall include in the submittal:

1. Identification of each permit which would otherwise be required.
2. Identification of the standards, requirements, criteria, or limitations which would have had to have been met to obtain such permit.
3. An explanation of how the response action proposed will meet the standards, requirements, criteria, or limitations identified.

Notwithstanding the foregoing, KNREPC asserts that the

application of CERCLA Section 121(e)(1), 42 U.S.C. § 9621(e)(1), does not constitute a waiver of any Kentucky statutory or regulatory requirement or a waiver of KNREPC's rights to require DOE to obtain a permit if EPA and KNREPC do not issue concurrence hazardous waste permit modifications/RODs. Furthermore, nothing in this Agreement shall be construed as an admission by any Party as to whether any permits would be required if EPA and KNREPC do not issue concurrence hazardous waste permit modifications/RODs.

B. If a permit which is necessary for implementation of this Agreement is not issued, or is issued or renewed in a manner which is materially inconsistent with the requirements of this Agreement or, by no fault of DOE, is not issued in time for DOE to comply with the terms of this Agreement, DOE agrees it shall notify the Secretary of the KNREPC and the Regional Administrator of EPA of its intention to propose modifications to this Agreement (or modifications to primary or secondary documents required by this Agreement) to obtain conformance with the permit (or lack thereof). Notifications by DOE of its intention to propose modifications shall be submitted within seven (7) business Days of receipt by DOE of notification that: (1) a permit will not be issued; (2) a permit has been issued or reissued; or (3) if the permit is appealed, a final determination with respect to any such appeal has been entered. If DOE does

not receive advance notification that a permit will not be issued, then DOE may notify EPA and KNREPC of its intent to propose modifications within seven (7) Days after the date that the permit is needed by DOE in order to comply with the terms of this Agreement. Within thirty (30) Days from the date it submits its notice of intention to propose modifications, DOE shall submit to the Secretary of the KNREPC and the Regional Administrator of EPA its proposed modifications to this Agreement with an explanation of its reasons in support thereof.

C. During any appeal of any permit required to implement this Agreement or during review of any of DOE's proposed modifications as provided in Subsection B of this Section, DOE shall continue to implement those portions of this Agreement which can be implemented pending final resolution of the permit issue(s).

XXII. CREATION OF DANGER

A. In the event that the Secretary of KNREPC or the Regional Administrator of EPA determines that activities conducted pursuant to this Agreement may present an imminent and substantial endangerment to the health or welfare of the people on the Site or in the surrounding areas or to the environment, the Secretary of KNREPC or the Regional Administrator of EPA may order DOE to stop any work being implemented under this Agreement

for such period of time as needed to abate the danger or may require DOE to take necessary action to abate the danger or both.

In the event that DOE determines that any on-site activities or work being implemented under this Agreement may create an immediate threat to human health or the environment from the Release or threat of Release of a hazardous substance, pollutant or contaminant, it may stop any work or on-site activities for such period of time as needed to respond to or abate the danger.

In the event DOE makes a determination to stop work under this Section, it shall immediately notify EPA and KNREPC. DOE shall submit a written summary of events to EPA and KNREPC within five (5) Days of making a determination under this Section.

B. The EPA and KNREPC agree to comply with DOE's Site Health and Safety Plan, or its equivalent, for EPA and KNREPC activities on PGDP.

XXIII. REPORTING

DOE agrees that it shall submit to KNREPC and EPA, fiscal year quarterly written progress reports (FY Quarterly Reports) which describe the actions which DOE has taken during the previous quarter to implement the requirements of this Agreement.

FY Quarterly Reports shall also describe the schedules of activities to be taken during the upcoming quarter. FY Quarterly Reports shall also provide the identity and assigned tasks of

each of DOE's contractors pursuant to Section VII (Parties) hereof. Progress reports shall be submitted on or before the thirtieth Day following the end of each fiscal year quarter (i.e., January 30, April 30, July 30 and October 30). DOE's first fiscal year quarterly progress report shall be due thirty (30) Days after the end of the first quarter following the effective date of this Agreement. The progress reports shall include a detailed statement of the manner and extent to which the requirements and time schedules set out in the Appendices to this Agreement are being met. The Progress Report shall also include a Primary/Secondary Document Tracking System. The tracking system should identify all documents under review and/or preparation for the given quarter and the due dates for completion of review/modification tasks. In addition, the progress reports shall identify any anticipated delays in meeting time schedules, the reason(s) for the delay and actions taken to prevent or mitigate the delay.

XXIV. NOTIFICATION

A. Unless otherwise specified, any report or submittal provided pursuant to a schedule or deadline identified in or developed under this Agreement shall be sent by certified mail, return receipt requested, or similar method (including electronic transmission) which provides a written record of the sending and

receiving dates and addressed or hand delivered to the following persons:

U. S. Environmental Protection Agency, Region IV
Remedial Project Manager
Paducah Gaseous Diffusion Plant
Federal Facilities Branch
100 Alabama Street, S. W.
Atlanta, Georgia 30303

Kentucky Department for Environmental Protection
Director, Division of Waste Management
14 Reilly Road, Frankfort Office Park
Frankfort, Kentucky 40601

U. S. Department of Energy
Site Manager
Paducah Site Office
P.O. Box 1410
Paducah, Kentucky 42001-1410

Copies of all correspondence shall be provided by the originator to all Parties. Unless otherwise specified or requested, all routine correspondence, other than a document or submittal as described above, may be sent via regular mail or electronically transmitted to the above persons.

XXV. RESOLUTION OF DISPUTES

Except as specifically set forth elsewhere in this Agreement, if a dispute arises under this Agreement, the procedures of this Section shall apply. All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Manager or immediate supervisor level.

If resolution cannot be achieved informally, then the procedures of this Section shall be implemented to resolve a dispute.

Nothing herein shall be construed as a limitation upon KNREPC's reservation of rights pursuant to Section XL (Covenant Not to Sue/Reservation of Rights) and KNREPC may exercise its reservation of rights after the Senior Executive Committee has concluded its deliberations (as set forth below in paragraph B. 5.).

A. Informal Dispute:

Subject to the limitations set forth elsewhere in this Agreement, informal dispute resolution may be invoked by any Party for any action which leads to or generates a dispute. A Party who wishes to invoke dispute resolution shall do so by first issuing a written statement of informal dispute. For disputes concerning review of a Primary Document, the disputing Party must issue the written statement of informal dispute within thirty (30) Days after the period established for review of a Primary Document pursuant to Section XX (Review/Comment On Draft/Primary Documents) of this Agreement. The written statement of informal dispute shall set forth the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute, and the information the disputing Party is relying upon to support its position. A

Secondary Document may only be disputed at the time the corresponding D2 Primary Document is submitted.

During informal dispute, the disputing Party shall engage the other Parties in informal dispute resolution among the Project Managers and/or their immediate supervisors. During the informal dispute resolution process, the Parties shall meet as many times as are necessary to discuss and attempt resolution of the dispute. Except as otherwise set forth below, the informal dispute resolution period shall be limited to thirty (30) Days from receipt of the written statement of informal dispute by the Parties. The informal dispute resolution period may automatically be extended for an additional fifteen (15) Days if requested by any of the Parties.

B. Formal Dispute:

1. If agreement cannot be reached on any issue during the informal dispute resolution process, then the disputing Party shall forward, no later than fifteen (15) Days after the end of the informal dispute resolution period, a written statement of formal dispute to the Dispute Resolution Committee (DRC), thereby elevating the dispute to the DRC for resolution. The date of the written statement of formal dispute shall serve as the date for initiation of formal dispute.

2. The DRC will serve as a forum for resolution of

disputes for which agreement has not been reached through informal dispute resolution. The Parties shall each designate one individual and an alternate to serve on the DRC. The individuals designated to serve on the DRC shall be employed at a policy level (Senior Executive Service or equivalent). The EPA designated member on the DRC is the Waste Management Division (WMD) Director, EPA Region IV. DOE's designated member is the Site Manager, Paducah Site Office. The KNREPC designated member is the Kentucky Division of Waste Management, Director.

3. Following elevation of a dispute to the DRC, the DRC shall have twenty-eight (28) Days to unanimously resolve the dispute and issue a written decision. If the DRC is unable to unanimously resolve the dispute within this twenty-eight (28) Day period, then the KNREPC and EPA representatives on the DRC shall attempt to resolve the dispute. The KNREPC and EPA representatives shall have five (5) additional Days to resolve the dispute and issue a written decision. If the KNREPC and EPA DRC representatives are unable to reach a decision within this five Day period, then the written statement of dispute shall be forwarded to the Senior Executive Committee (SEC) for resolution. Alternatively, if DOE is not satisfied with the decision reached by KNREPC and EPA, then DOE may, within ten (10) days of receiving notice of the decision, elevate the dispute to the SEC

for resolution.

4. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC or disputes elevated pursuant to Paragraph 3 above. The EPA representative on the SEC is the Regional Administrator of EPA Region IV. The DOE representative on the SEC is the Manager of Oak Ridge Operations. The KNREPC representative on the SEC is the Commissioner of KDEP. The SEC members shall, as appropriate, confer, meet, and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within twenty-eight (28) Days, then the KNREPC and EPA representatives on the SEC will attempt to resolve the dispute. The KNREPC and EPA representatives shall have five (5) additional Days to resolve the dispute and issue a written decision. If DOE is not satisfied with the decision reached by KNREPC and EPA, then DOE may, within ten (10) days of receiving notice of the decision, elevate the dispute to the EPA Administrator for resolution.

5. If the KNREPC and EPA representatives are unable to reach a decision, then KNREPC, may, within ten (10) days of the conclusion of the SEC's deliberations, issue a written notice to EPA and DOE, exercising its reservation of rights as set forth in Section XL (Covenant Not To Sue/Reservation of Rights).

Provided, however, that in the event KNREPC elects to exercise its reservation of rights, KNREPC agrees to continue to participate informally (e.g., either in person, telephonically, in writing, etc., as appropriate) in discussions pertaining to the matter under dispute. The continued participation of the Commonwealth shall in no way affect the Commonwealth's election of its reservation of rights and shall not be construed as limiting or affecting the Commonwealth's authority under RCRA and KRS 224, and the Commonwealth may, during the discussions, pursue any enforcement or other action it deems appropriate. Whether or not KNREPC elects to exercise its Reservation of Rights, the EPA Region IV Regional Administrator shall issue a written position on the dispute. DOE and/or KNREPC (if KNREPC has not exercised its reservation of rights) may, within ten (10) Days of the Regional Administrator's issuance of EPA's position, issue a written notice elevating the dispute to the Administrator of EPA for resolution in accordance with all applicable laws and procedures. In the event that neither DOE nor KNREPC (if KNREPC has not exercised its reservation of rights) elect to elevate the dispute to the EPA Administrator within the designated ten (10) Day elevation period, DOE and the KNREPC shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.

6. Upon elevation of a dispute to the EPA Administrator pursuant to Subsection B.4 or B.5, the Administrator will review and resolve the dispute within twenty-eight (28) Days. Upon request and prior to resolving the dispute, the Administrator shall meet and confer with the Secretary of DOE and/or the Secretary of KNREPC to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide all Parties with a written final decision setting forth resolution of the dispute. With the prior concurrence of DOE, the duties of the Administrator set forth in this Subsection may be delegated to the Assistant Administrator for Enforcement and Compliance Assurance.

7. The pendency of any dispute under this Section shall not affect DOE's responsibility for timely performance of the work required by this Agreement, except that the time period for completion of work affected by such dispute shall be extended for a period of time usually not to exceed the actual time taken to resolve any good faith dispute in accordance with the procedures specified herein. All elements of the work required by this Agreement which are not affected by the dispute shall continue and be completed in accordance with the applicable schedule.

8. When dispute resolution is in progress, work

affected by the dispute will immediately be discontinued if the WMD Director for EPA, Region IV or the Director of the Kentucky Division of Waste Management (KDWM) requests, in writing, that work related to the dispute be stopped because, in EPA or KNREPC's opinion, such work is inadequate or defective, and such inadequacy or defect is likely to yield an adverse effect on human health or the environment, or is likely to have a substantial adverse effect on the remedy selection or implementation process. To the extent possible, EPA or KNREPC shall give DOE prior notification that a work stoppage request is forthcoming. After stoppage of work, if DOE believes that the work stoppage is inappropriate or may have potential significant adverse impacts, then DOE may meet with the WMD Director or the Director of KDWM to discuss the work stoppage. The final written decision of the WMD Director or the Director of KDWM will be submitted to DOE within fifteen (15) Days and may be subject to formal dispute resolution immediately. Such dispute may be brought directly to either the DRC or the SEC, at the discretion of DOE, EPA or KNREPC.

9. Within thirty-five (35) Days of resolution of a dispute pursuant to the procedures specified in this Section, DOE shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to

implement this Agreement according to the amended plan, schedule or procedures.

10. Resolution of a dispute pursuant to this Section of this Agreement constitutes a final resolution of said dispute.

All Parties shall abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Section of this Agreement (if KNREPC has not exercised its reservation of rights). Any final resolution of a dispute pursuant to this Agreement shall be incorporated into this Agreement and shall become a term and condition of this Agreement. Nothing herein shall be construed as a limitation upon KNREPC's reservation of rights pursuant to Section XL (Covenant Not to Sue/Reservation of Rights) or DOE's reservation of removal authority as set forth in Section X (Removal Actions) of this Agreement. Provided, however, that in the event KNREPC exercises its reservation of rights under this Agreement, any final decision by EPA under this Section shall be binding and have effect only as between EPA and DOE, and DOE reserves its right to raise any and all defenses as to KNREPC that it might otherwise have in the absence of such decision.

11. Resolution of disputes may include a determination of the length of any time extensions which are necessary.

12. Pursuant to this Section, all or a portion of a

dispute may be elevated.

13. Authorities set forth to members of the DRC or SEC may be delegated only to those persons acting for the designated member during a designated member's absence.

14. Resolution of disputes under this Section may be accelerated as provided in Section XL (Covenant Not to Sue/Reservation of Rights) of this Agreement. Moreover, for disputes relating to Emergency and Time Critical Removal Actions only, the informal dispute resolution period shall be limited to fifteen (15) Days, with no extension. Furthermore, if, consensus is not reached amongst the parties during the informal dispute resolution period, then within five (5) Days of the end of the informal dispute resolution period, the disputing party shall forward a written statement of formal dispute directly to the SEC. The members of the SEC may agree to shorten their twenty-eight (28) day deliberation period to such time frame as is mutually agreed upon given the exigencies of the situation.

XXVI. DESIGNATED PROJECT MANAGERS

A. EPA, DOE, and KNREPC will each designate Project Managers to coordinate the implementation of this Agreement and shall notify each other in writing of the designation. Each Party may change its designated Project Manager by notifying the other Parties in writing.

B. Daily communications between EPA, DOE, and KNREPC shall be between Project Managers. All documents, including reports, agreements, and other correspondence, concerning the activities performed pursuant to the terms and conditions of this Agreement, shall be distributed in a manner consistent with Section XXIV (Notification) of this Agreement. EPA, DOE and KNREPC Project Managers will coordinate with the Managers identified under Section XXIV (Notification) of this Agreement to ensure timely submission of all documents subject to a schedule or deadline established under this Agreement. Each Project Manager shall be responsible for assuring the internal dissemination and processing of all communications and documents received from the other Project Managers.

XXVII. QUALITY ASSURANCE/SAMPLING AVAILABILITY/DATA MANAGEMENT

A. The Parties shall make available to each other, upon request, results of sampling, tests, or other data generated by this Agreement. All quality-assured data, or summaries of all quality-assured data, from all samples collected, analyzed, and reported shall be available no later than thirty (30) Days after the analyses have been received and validated.

B. At the request of the EPA and/or the KNREPC Project Manager, DOE shall allow split or duplicate samples to be taken by EPA or KNREPC during sample collection conducted pursuant to

this Agreement. Upon request by DOE, EPA and KNREPC shall submit to DOE copies of records and other documents, including sampling and monitoring data, that are relevant to oversight activities. All requirements of the AEA, 42 U.S.C. § 2011, et seq., and all Executive Orders concerning the handling of unclassified controlled nuclear information, restricted data, and national security information, including the "need to know" requirement, shall be applicable to any grant of access to classified information, including sample collection, under provisions of this Agreement.

C. The Parties intend to integrate all data and Release characterization studies generated pursuant to this Agreement . All data and studies produced under this Agreement shall be managed and presented in accordance with the requirements contained in a D1 Data Management Plan (DMP) to be developed by DOE and submitted to EPA and KNREPC within ninety (90) Days of the effective date of this Agreement for review in accordance with Section XX (Review/Comment on Draft/Final Documents) of this Agreement. The Final DMP shall be appended to the SMP. DOE shall maintain one consolidated data base for the Site which includes all data/studies generated pursuant to this Agreement. Such data base(s) will be operational within six (6) months after the effective date of this Agreement. These data

bases may be maintained in electronic form provided however, that hard copies of all data/studies and related documents are made available upon request.

XXVIII. ACCESS/DATA/DOCUMENT AVAILABILITY

A. Without limitation on any authority conferred on EPA or KNREPC by statute, regulation or other agreement, EPA, KNREPC and/or their authorized representatives shall have authority to enter the Site at all reasonable times, with or without advance notification for the purpose of inspecting records, logs, and other documents relevant to implementation of this Agreement; reviewing the progress of DOE, its contractors, and lessees in carrying out the activities under this Agreement; conducting, sampling and analyses which EPA or KNREPC deem necessary; and verifying data submitted to EPA and KNREPC by DOE. DOE shall honor all reasonable requests for access to the Site made by EPA or KNREPC. When on-site, EPA and KNREPC shall comply with OSHA Hazardous Waste Operations and Emergency Response rules, where applicable, and DOE's site health and safety requirements. EPA and KNREPC access shall be subject to the applicable requirements of the AEA, 42 U.S.C. § 2011, et seq., and Executive Orders concerning the handling of unclassified controlled nuclear information, restricted data, and national security information. Upon request by EPA or KNREPC, DOE shall submit to EPA and

KNREPC copies of records, and other documents, including sampling and monitoring data, that are relevant to oversight activities.

B. To the extent that activities pursuant to this Agreement must be carried out on property other than PGDP property, DOE agrees to use its best efforts, including exercising its authority, if necessary, to obtain access pursuant to Section 104(e) of CERCLA, 42 U.S.C. §6904(e), Section 3004(v) of RCRA and KRS 224.10-100(10) from the present owners and/or lessees. DOE shall use its best effort to obtain access agreements which shall provide reasonable access for DOE, EPA, and KNREPC and their representatives, and other appropriate state regulatory agencies.

Pursuant to 40 CFR 264.101(c), DOE is not relieved of all responsibility to conduct off-site response actions when off-site access is denied. The appropriateness of on-site measures to address such off-site Releases will be determined considering site-specific circumstances.

C. DOE shall use its best efforts to obtain written access agreements with respect to non-DOE property upon which monitoring wells, pumping wells, treatment facilities, or other facilities may be located, to carry out response actions under this Agreement. The agreements shall provide that no conveyance of title, easement, or other interest in the property shall be consummated without provisions for the continued operation of

such wells, treatment facilities, or other response actions on the property. The access agreements shall also provide that the owners of any property where monitoring wells, pumping wells, treatment facilities or other response actions are located shall notify EPA, KNREPC and DOE by certified mail, at least thirty (30) Days prior to any conveyance of the property owner's interest in the property and of the provisions made for the continued operation of the monitoring wells, pumping wells, treatment facilities or other response actions installed pursuant to this Agreement. In the event DOE is unable to obtain access within sixty (60) Days after the access is sought, DOE shall promptly notify EPA and KNREPC regarding both the lack of access and the efforts undertaken to obtain such access. DOE shall submit proposed modification(s) to this Agreement to EPA and KNREPC in response to such inability to obtain access.

D. Information, records, or other documents (including D1 primary and secondary documents) produced under the terms of this Agreement by EPA, KNREPC, and DOE shall be available to the public except (a) those identified to EPA and KNREPC by DOE as classified, or unclassified but controlled, within the meaning of and in conformance with the AEA or (b) those that could otherwise be withheld pursuant to the Freedom of Information Act, the Privacy Act, or the Kentucky Open Records Act, unless expressly

authorized for Release by the originating agency. Documents or information so identified shall be handled in accordance with those regulations. If no claim of confidentiality accompanies information which is submitted to any Party, then the information may be made available to the public without further notice to the originating Party.

E. Notwithstanding any provision of this Agreement, all requirements of the AEA, as amended, and all Executive Orders concerning the handling of unclassified controlled nuclear information, restricted data and national security information, including the "need to know" requirement, shall be applicable to any access to information or facilities covered under the provisions of this Agreement. The EPA and KNREPC reserve their right to seek or to otherwise obtain access to such information or facilities in accordance with applicable law.

XXIX. EXTENSIONS

A. Either a timetable and deadline or a schedule including schedules within a Work Plan, shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension. If an extension due to good cause affects any enforceable deadline in Appendix C, the Agreement shall be modified according to Section XXXIX (Modification of Agreement).

A request for an extension by a Party shall be timely if it is

made in writing (or orally followed within ten (10) Days by a written request) prior to the deadline or scheduled deliverable date. Any oral or written request shall be provided to the other Parties pursuant to Section XXIV (Notification). The request shall specify:

1. The timetable and deadline or the schedule that is sought to be extended;
2. The length of the extension sought;
3. The good cause(s) for the extension; and
4. Any related timetable and deadline or schedule that would be affected if the extension were granted.

B. Good cause exists for an extension when sought in regard to:

1. An event of force majeure;
2. A delay caused by another Party's failure to meet any requirement of this Agreement;
3. A delay caused by the good faith invocation of dispute resolution or the initiation of judicial action;
4. A delay caused, or which is likely to be caused, by the grant of an extension in regard to another timetable and deadline or schedule;
5. A delay caused by Additional Work agreed to by the Parties; and
6. Any other event or series of events mutually agreed

to by the Parties as constituting good cause.

C. Delays caused by the failure of DOE to adequately coordinate its activities with the USEC shall not be considered good cause for an extension.

D. Absent agreement of the Parties with respect to the existence of good cause, the Parties may seek and obtain a determination through the dispute resolution process of whether or not good cause exists.

E. For extension requests by DOE, EPA and KNREPC shall use the following procedures:

1. Within twenty-one (21) Days of receipt of a written request for an extension of a timetable and deadline or a schedule, the EPA and KNREPC shall advise all Parties in writing of their respective positions on the request. To the extent that EPA and KNREPC fail to respond to DOE's request within the 21 Day period, then beginning on the 22nd Day, DOE shall have a day for day extension until such time as EPA and KNREPC either concur with the extension request or issue a statement of nonconcurrency. If EPA or KNREPC do not concur with the requested extension, they shall include in their statement of nonconcurrency an explanation of the basis for their position.

2. If there is consensus among the Parties that the requested extension is warranted, then DOE shall extend the

affected timetable and deadline or schedule accordingly. If there is no consensus among the Parties as to whether all or part of the requested extension is warranted, the timetable and deadline or schedule shall not be extended except in accordance with a determination resulting from the dispute resolution process.

3. Within fourteen (14) Days of receipt of a statement of nonconcurrence with the requested extension, DOE may invoke dispute resolution. If DOE does not invoke dispute resolution within fourteen (14) Days of receipt of a statement of nonconcurrence, then DOE shall be deemed to have accepted EPA's or KNREPC's nonconcurrence and the existing schedule.

4. A timely and good faith request for an extension shall suspend any assessment of stipulated penalties or application for judicial enforcement of the affected timetable and deadline or schedule until a decision is reached on whether the requested extension will be approved. If dispute resolution is invoked and the requested extension is denied because it was not brought in good faith, stipulated penalties may be assessed and may accrue from the date of the original timetable, deadline, or schedule. Following the grant of an extension, an assessment of stipulated penalties, as defined in Section XLIII (Stipulated Penalties), or an application for judicial enforcement may be

sought only to compel compliance with the timetable and deadline or schedule as most recently extended.

F. For extension requests by EPA and KNREPC, if no Party invokes dispute resolution within twenty-one (21) Days after receipt of written notice of the requested extension, the extension shall be deemed approved.

XXX. FIVE YEAR REVIEW

Consistent with Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and in accordance with this Agreement, DOE agrees that if the selected, final RAs for any operable unit, including selected alternatives entailing institutional controls with remedial action, result in Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents remaining at the Site above levels that allow for unlimited use and unrestricted exposure in accordance with Section 300.430(f)(4)(ii) of the NCP, DOE will submit to EPA and KNREPC a review of the RAs no less often than once every five (5) years (Five Year Review) after the initiation of such RAs (i.e., date of issuance of final-ROD) for as long as the site remains on the NPL to assure that human health and the environment are being protected by the RAs being implemented. To facilitate the Five Year Review process for multiple OUs, the Five Year Reviews shall be synchronized as follows: reviews which are required for RA

OUs will be conducted every five years starting from the initiation of the RA for the first OU. Every five years thereafter, all subject OU RAs which were started prior to the next Five Year Review date, shall be included in the next Five Year Review. For OU RAs which started after the most recent Five Year Review, the level of the review shall be commensurate to the completeness of the RA and the quantity of operation and maintenance data collected.

If, based on the Five Year Review, it is the judgment of EPA or KNREPC that additional action or modification of a RA is appropriate in accordance with Sections 104, 106 or 120 of CERCLA, 42 U.S.C. §§ 9604, 9606, or 9620, the RCRA Permits or KRS 224 Subchapter 46, then EPA or KNREPC shall require DOE to submit a proposal to implement such additional or modified actions, which shall be subject to review and approval by EPA and KNREPC.

Any dispute under this Section shall be resolved under Section XXV (Resolution of Disputes) of this Agreement.

XXXI. RETENTION OF RECORDS

DOE shall preserve, during the duration of this Agreement and for a minimum of ten (10) years after the termination and satisfaction of this Agreement, the complete Administrative Record, post-ROD primary and secondary documents and reports. After this ten (10) year period, DOE shall notify EPA and KNREPC

at least ninety (90) Days prior to the destruction of any such records or documents. Upon request by EPA or KNREPC, DOE shall make available any such records or copies of such records.

XXXII. ADMINISTRATIVE RECORD

A. DOE shall establish and maintain the CERCLA Administrative Record for the Site for each Operable Unit (hereinafter, collectively referred to as the "Administrative Record"). A complete copy of the Administrative Record shall be available to the public at DOE Environmental Information Center in Kevil, Kentucky. In addition, copies of the current index to the Administrative Record and selected documents from the Administrative Record shall be available at other locations, as specified in the approved Community Relations Plan.

B. EPA shall maintain its Administrative Record for the EPA RCRA Permit issued pursuant to HSWA, as required under 40 CFR §§124.9 and 124.18. KNREPC shall maintain its Administrative Record for the Kentucky Hazardous Waste Permit, as required under 401 KAR 38:050.

C. The selection of each response action shall be based on the CERCLA Administrative Record, in accordance with Section 113(k) of CERCLA, 42 U.S.C. § 9613(k), the NCP, and any regulations promulgated pursuant to that Section, KRS 224 Subchapter 46 and any applicable guidance, and the Administrative

Records referenced under Subparagraph B of this Section to the Agreement. A copy of the CERCLA Administrative Record or a complete index thereof shall be maintained at EPA's Region IV office in Atlanta, Georgia.

D. Upon request by EPA or KNREPC, DOE shall provide copies of documents generated or possessed by DOE which are included in the CERCLA Administrative Record to the requesting Party. EPA and KNREPC shall provide DOE with copies of documents generated by each agency which should be included within the CERCLA Administrative Record.

E. Upon establishment of the CERCLA Administrative Record, DOE shall provide EPA and KNREPC with an index of the Administrative Record. The index shall identify the documents which will comprise the Administrative Record including each decision document for each particular response action.

F. DOE shall provide EPA and KNREPC, in its fiscal year quarterly written progress reports, a periodic update of the index of the Administrative Record that includes any changes or additions to the Record. The Project Managers shall review the Administrative Record Index quarterly to ensure that the Administrative Record is current and complete.

G. EPA shall provide DOE with guidance on establishing and maintaining the CERCLA Administrative Record as EPA develops

guidance.

XXXIII. PUBLIC PARTICIPATION

A. The Parties agree that work conducted under this Agreement, including an Engineering Evaluation/Cost Analysis (as described in Appendix D to this Agreement) for a Removal Action or Proposed Plans for RA at the Site, shall comply with the public participation requirements of CERCLA, including Section 117 of CERCLA, 42 U.S.C. § 9617, the NCP, RCRA and KRS 224 (as applicable), all applicable guidance developed by EPA, all applicable Kentucky hazardous waste laws, and the principles of the Federal Facility Environmental Restoration Dialogue Committee Final report dated April 1996. This shall be achieved through implementation of the approved Community Relations Plan (CRP) prepared and implemented by DOE. A D1 CRP must be submitted to EPA and KNREPC within sixty (60) Days of the effective date of this Agreement for review in accordance with Section XX (Review/Comment On Draft/Primary Documents) of this Agreement and shall include procedures for solicitation of public comment and dissemination of information to the PGDP Site Specific Advisory Board. The Parties agree that the CRP shall, to the extent practicable, coordinate the public participation requirements of CERCLA, RCRA and KRS 224 for activities undertaken pursuant to this Agreement. A major permit modification, including the

required public participation procedures, to incorporate a final remedy upon completion of the RFI/CMS for a Potential OU, shall be carried out in accordance with Condition II.G. of the EPA RCRA Permit and Condition IV.G. of the Kentucky Hazardous Waste Permit. The Parties may integrate public participation requirements of other Federal and Kentucky environmental laws on a case-by-case basis.

B. Excluding imminent hazard situations, any Party issuing an official news release with reference to any of the work required by this Agreement shall advise the other Parties of such news release and the contents thereof at least two (2) business Days before the issuance of such news release.

C. Nothing in this Agreement shall be construed to preclude any Party from responding to public inquiries at any time.

XXXIV. RECOVERY OF EXPENSES

A. EPA Resources

EPA shall take all necessary steps and make efforts to obtain timely funding to meet its obligations under this Agreement. Notwithstanding any other provision of this Agreement, in the event that EPA determines that sufficient funds have not been appropriated to meet any post fiscal year 1996 commitments established by this Agreement, EPA may terminate this Agreement by written notice to DOE and KNREPC.

B. Reimbursement of KNREPC Expenses

1. DOE agrees to reimburse Kentucky for all costs incurred by Kentucky specifically related to the implementation of this Agreement at the Site, provided these costs either: 1) are not inconsistent with the NCP or 2) constitute fees payable to KNREPC. Costs to be reimbursed as described in this paragraph shall not be deemed inconsistent with the NCP solely because such costs are not specifically addressed in the NCP.

2. A separate funding agreement between DOE and Kentucky will be executed. The separate funding agreement between DOE and KNREPC is the specific mechanism for the transfer of funds between DOE and KNREPC for payment of the costs referred to in Subsection B.1. and provides a mechanism for the resolution of any disputed costs between DOE and Kentucky.

3. For the purposes of budget planning only, Kentucky shall provide to DOE, before the beginning of the fiscal year, a written estimate of Kentucky's projected costs to be incurred in implementing the Agreement in the upcoming fiscal year.

4. Kentucky reserves all rights it has to recover any other past and future costs incurred by Kentucky in connection with CERCLA activities conducted at PGDP.

5. In the event of a substantial change in Kentucky's costs incurred specifically related to the implementation of this

Agreement, and a significant change in the scope of the project, KNREPC and DOE agree to renegotiate the amounts contained in the separate funding agreement to reflect such change proportionate to the circumstances. The amount and schedule of payment of these costs will be negotiated with consideration for DOE's multi-year funding cycle.

XXXV. CLAIMS AND PUBLICATION

A. DOE agrees to assume full responsibility for the remediation of the Site in accordance with CERCLA, the NCP, RCRA Sections 3004(u) and (v) and 3008 (h), and KRS 224 Subchapter 46.

However, nothing in this Agreement shall constitute or be construed as a release by KNREPC, DOE, or EPA of any claims, causes of action, or demand in law or equity against any person, firm, partnership, or corporation not a signatory to this Agreement for any liability which it may have arising out of or related in any way to the generation, storage, treatment, handling, transportation, Release, or disposal of any Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents found at, taken to, or taken from the Site.

B. This Agreement does not constitute any decision or preauthorization by EPA of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), for any person, agent,

contractor, or consultant acting for DOE.

C. EPA and KNREPC shall not be held as a party to any contract entered into by DOE to implement the requirements of this Agreement.

D. This Agreement shall not restrict EPA or KNREPC from any legal, equitable, administrative, or response action for any matter not part of the work covered by this Agreement.

E. DOE, KNREPC and EPA shall provide a copy of this Agreement to appropriate contractors, subcontractors, laboratories, and consultants retained to conduct any portion of the work performed pursuant to this Agreement prior to beginning work to be conducted under this Agreement.

F. Nothing in this Agreement shall be considered an admission by any Party with respect to any unrelated claims by any Party or any claims by persons not a Party to this Agreement.

XXXVI. ORDER OF PREFERENCE

In the event of any inconsistency between the Sections of this Agreement and the Appendices to this Agreement, the Sections of this Agreement shall govern unless specifically stated otherwise in this Agreement.

XXXVII. COMPLIANCE WITH LAWS

Nothing in this Agreement shall be construed to relieve DOE or its representative(s) of the obligation to comply with all

applicable Federal laws, regulations and Executive Orders, and all applicable Kentucky and local laws and regulations.

XXXVIII. FORCE MAJEURE

A. (i) A Force Majeure shall mean any event arising from causes beyond the control of a Party that could not have been overcome or avoided by due diligence of that Party and that causes a delay in or prevents the performance of any obligation under this Agreement, including, but not limited to:

1. Acts of God; fire; war; insurrection; civil disturbance; or explosion;
2. Unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent maintenance;
3. Adverse weather conditions that could not be reasonably anticipated; unusual delay in transportation;
4. Restraint by court order or order of public authority;
5. Inability to obtain, after exercise of reasonable diligence, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority other than DOE; and
6. Delays caused by compliance with applicable statutes or regulations governing contracting, procurement or

acquisition procedures, despite the exercise of reasonable diligence.

(ii) Delay caused in whole or in part by the United States Enrichment Corporation shall not be presumed to be a force majeure event.

(iii) Failure to submit a timely Primary Document due to a delay in submission of a related Secondary Document shall not be presumed to be a force majeure event

B. A Force Majeure shall also include any strike or other labor dispute, whether or not within the control of the Parties affected thereby. Force Majeure shall not include increased costs or expenses of Response Actions, whether or not anticipated at the time such Response Actions were initiated.

C. The Parties agree that Subsection A.2 (entirely), Subsection A.3 ("delay in transportation" provision only), Subsection A.4 ("order of public authority"), and Subsection A.6 (entirely) above, do not create any presumptions that such events arise from causes beyond the control of a Party. KNREPC and EPA specifically reserve the right to withhold their concurrence to any extensions which are based on such events which are not entirely beyond the control of DOE pursuant to terms of Section XXIX (Extensions), or to contend that such events do not constitute Force Majeure in any action to enforce this Agreement.

D. Notwithstanding the provisions of Section XXIX (Extensions) hereof, if any event occurs or has occurred that may delay the performance of any obligation under this Agreement, whether or not caused by a force majeure event, DOE shall notify orally EPA and KNREPC within 72 hours of when DOE first knew or should have known that the event might cause a delay. Within 10 Days thereafter, DOE shall provide in writing to EPA and KNREPC an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; DOE's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of DOE, such event may cause or contribute to an endangerment to public health, welfare or the environment. DOE shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude DOE from asserting any claim of force majeure for that event. DOE shall be deemed to have notice of any circumstance of which their contractors or subcontractors had or should have had notice.

E. Extension requests based on a force majeure shall proceed pursuant to Section XXIX (Extensions) hereof.

XXXIX. MODIFICATION OF AGREEMENT

A. This Agreement may be modified by agreement of all the Parties. All major modifications shall be in writing and shall be effective upon the date on which such modifications are signed by EPA. EPA shall be the last signatory on any major modifications to this Agreement.

B. Except as provided in Subsection C, no informal advice, guidance, suggestions, or comments by EPA or KNREPC shall be construed as relieving DOE of any obligation required by this Agreement.

C. Modifications shall be considered major modifications under Subsection A, if designated "major" by any Party. If any party disagrees with the designation of a modification as major, it may invoke dispute resolution pursuant to Section XXV of this Agreement. A major modification is subject to public participation to the extent required by DOE's Community Relations Plan under Section XXXIII (Public Participation) of this Agreement. All other modifications shall not be considered major and can be made informally upon consent of those Parties designated to receive notice in accordance with Section XXIV (Notification) of this Agreement. Informal modifications shall be confirmed in writing within ten (10) Days following the consent of the Project Managers.

D. Any modification to this Agreement, its appendices, or any primary or secondary document previously approved as final by EPA and KNREPC which incorporates new innovative technology shall be considered a major modification to this Agreement. The Parties agree that such modifications will be made in the future where appropriate to incorporate those new technologies which achieve compliance with this Agreement, either at reduced cost, or in a shorter period of time.

E. The Parties understand that changes in law or regulations may occur which affect the obligations or rights of the parties under this Agreement or change the nature of this Agreement. The Parties agree to consider modifications to this Agreement to address the effects of any such changes.

XL. COVENANT NOT TO SUE/RESERVATION OF RIGHTS

A. In consideration for DOE's compliance with this Agreement, and based on the information known to the Parties on the effective date of this Agreement, EPA agrees that compliance with this Agreement, including payment of stipulated penalties, shall stand in lieu of any administrative, legal and equitable remedies against DOE available to it regarding the currently known Releases or threatened Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents at the Site which are the subject of an RI/FS or

Removal Notification and which will be addressed by a RA or Removal Action provided for under this Agreement. Except as otherwise provided in this Agreement, and based on the information known to the Parties on the effective date of this Agreement, KNREPC agrees that compliance with this Agreement shall satisfy DOE's obligations arising under the RCRA Permits and the corrective action provisions of KRS 224 Subchapter 46 regarding the currently known releases or threatened releases of hazardous wastes or hazardous constituents at the Site which are the subject of an RI/FS or Removal Notification and which will be addressed by a Response Action approved by KNREPC and provided for under this Agreement. Provided, however, that this provision shall not apply where Kentucky has exercised its reservation of rights pursuant to paragraph B.5 of Section XXV (Resolution of Disputes) and Section L (Covenant Not to Sue/Reservation of Rights) of this Agreement. KNREPC agrees, at a minimum, to proceed through the SEC level of the dispute resolution process provided in Section XXV (Resolution of Disputes) of this Agreement prior to taking any other action available to it regarding the currently known Releases or threatened Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents at the Site which are the subject of an RI/FS or Removal Notification and which will be

addressed by a RA or Removal Action provided for under this Agreement. Nothing in this Agreement shall preclude either the EPA or KNREPC from exercising any administrative, legal and equitable remedies available (including the assessment of civil penalties and damages if such are otherwise legally assessable) to require additional response actions by the DOE in the event that the implementation of the requirements of this Agreement is no longer protective of public health and the environment or for matters not specifically part of the work covered by this Agreement. Moreover, nothing herein shall limit KNREPC's or EPA's authority to challenge a Removal Action pursuant to 42 U.S.C. §9622(e)(6) and KRS 224 Subchapter 46. Nothing in this Agreement shall be deemed to confer or waive authority reserved to DOE under the Atomic Energy Act, 42 U.S.C. 2011 et seq.. Additionally, in the event of enforcement action being taken against DOE under this Agreement, including, but not limited to actions under Sections X or XIV of this Agreement, DOE reserves all rights, including any appeal rights it may have.

B. Except to the extent expressly provided for elsewhere in this Agreement, this Agreement shall not be construed as waiving any right or authority that KNREPC may have and shall not be construed as a bar or release of any claim, cause of action or demand in law or equity including any right KNREPC may have to

assess penalties for DOE's failure to comply with any term or condition of this Agreement or any timetable or deadline established pursuant to this Agreement. Notwithstanding the provisions of Section XXV (Resolution of Disputes) or any other Section of this Agreement, in the event that KNREPC issues a written notice exercising its reservation of rights pursuant to Section XXV (Resolution of Disputes), paragraph B.5., or is dissatisfied with any final decision issued by the Administrator pursuant to Section XXV (Resolution of Disputes), KNREPC may take any action concerning the disputed matter which would be available in the absence of this Agreement, including imposing its requirements directly on DOE, defending the basis for those requirements, and contesting EPA's conflicting requirements, if any.

C. Notwithstanding this Section, or any other Section of this Agreement, KNREPC shall retain any right it may have to obtain judicial review of any final decision of EPA on selection of a remedial action or ARARs determination pursuant to any authority KNREPC may have under Sections 113, 121(e)(2), 121(f), and 310 of CERCLA, 42 U.S.C. §§ 9613, 9621(e)(2), 9621(f), and 9659.

D. If dispute resolution concerning any matter requires a decision by the Regional Administrator or the Administrator, the

Parties may mutually agree to accelerate that matter through the dispute resolution procedures of Section XXV (Resolution of Disputes) under this Agreement to the Administrator.

Notwithstanding the provisions of Section XXV (Resolution of Disputes) or any Section of this Agreement, in the event that KNREPC elects to exercise its reservation of rights pursuant to Section XXV (Resolution of Disputes), paragraph B.5., or is dissatisfied with any final decision issued by the Administrator pursuant to Section XXV (Resolution of Disputes), KNREPC may take any action concerning the disputed matter which would be available in the absence of this Agreement.

E. This Covenant Not to Sue shall not be deemed to affect any rights which any non-party may have.

F. DOE is not released from any claim for damages for injury to, destruction of, or loss of natural resources pursuant to CERCLA Section 107. This Agreement does not in any way release DOE from any claims any party may have for natural resource damage assessments or for damages to natural resources.

G. Nothing in this Agreement shall preclude KNREPC from exercising any administrative or judicial remedies available in the event or upon the discovery of a violation of, or noncompliance with, any provision of RCRA or KRS 224 Chapter 46 including any disposal or release of hazardous waste or hazardous

constituents which are not addressed by this Agreement. Moreover, nothing in this Agreement shall be interpreted to excuse DOE from complying with the requirements of RCRA, KRS 224 Subchapter 46 and the regulations promulgated thereunder for matters not addressed by this Agreement.

H. For matters within the scope of this Agreement, KNREPC and EPA reserve the right to bring any enforcement action against other potentially liable parties, including contractors, subcontractors and/or operators, if DOE fails to comply with this Agreement. For matters outside this Agreement, and any actions related to response costs, KNREPC and EPA reserve the right to bring any enforcement action against other potentially responsible parties, including DOE's contractors, subcontractors and/or operators, regardless of DOE's compliance with this Agreement.

XLI. NATURAL RESOURCE DAMAGES

DOE and other Kentucky and Federal trustees shall act on behalf of the public as the trustees for the natural resources present at PGDP. In this capacity, DOE shall be responsible for notifying other Kentucky and Federal trustees and for assessing damages (injury, destruction or loss of natural resources) resulting from Releases of Hazardous Substances, pollutants or contaminants, or Hazardous Wastes and Hazardous Constituents on

PGDP, and for implementation of measures designed to mitigate such damages. These authorities are vested in DOE (as specified in Executive Order 12580) pursuant to Section 107(f) of CERCLA and Section 311(f) of the Federal Water Pollution Control Act. As a trustee for natural resources on PGDP, DOE Kentucky, U.S. Fish and Wildlife Service, Tennessee Valley Authority and the Department of Interior, shall have the authority to:

1. Assess damages to public natural resources following the procedures provided by 43 CFR Part 11 and subsequent rule making; and

2. Devise and implement a plan to restore, replace or acquire the equivalent of such resource pursuant to CERCLA. Such a plan shall be consistent, to the degree possible, with applicable Record(s) of Decision under this Agreement.

DOE shall notify the appropriate Federal and Kentucky natural resource trustees as required by Section 104(b)(2) of CERCLA, 42 U.S.C. § 9604(b)(2), and Section 2(e)2 of Executive Order 12580. Except as provided herein, DOE is not released from any liability which it may have pursuant to any provisions of Kentucky and Federal law, including any claim for damages for liability to the destruction of, or loss of natural resources.

XLII. PROPERTY TRANSFER

In the event that DOE determines to enter into any contract

for the sale or transfer of any of the Site, DOE shall comply with the requirements of Section 120(h) of CERCLA, 42 U.S.C. § 9620(h), in effectuating that sale or transfer, including all notice requirements. In addition, DOE shall include notice of this Agreement in any document transferring ownership or operation of the Site to any subsequent owner and/or operator of any portion of the Site and shall notify EPA and KNREPC of any such sale or transfer at least ninety (90) Days prior to such sale or transfer. No change in ownership of the Site or any portion thereof or notice pursuant to Section 120(h)(3)(B) of CERCLA, 42 U.S.C. § 9620(h)(3)(B), shall relieve DOE of its obligation to perform pursuant to this Agreement. No change of ownership of the Site or any portion thereof shall be consummated by DOE without provision for continued maintenance of any containment system, treatment system, or other response action(s) installed or implemented pursuant to this Agreement. This provision does not relieve DOE of its obligations under 40 C.F.R. Part 270 and KRS 224 §46, 401 KAR Chapter 38.

XLIII. STIPULATED PENALTIES

A. In the event that DOE fails to submit a Primary Document, as identified in Section XX (Review/Comment On Draft/Primary Documents), to EPA and KNREPC pursuant to the appropriate enforceable timetable or deadline included in

Appendix C in accordance with the requirements of this Agreement, or fails to comply with a term or condition of this Agreement which relates to the actual performance of an interim or final RA, or a Removal Action, DOE may be assessed a stipulated penalty in an amount not to exceed \$5,000 for the first week (or part thereof), and \$10,000 for each additional week (or part thereof) for which a failure set forth in this Subsection occurs.

Stipulated penalties will accrue from the date of the missed deadline or the date the noncompliance occurs, as appropriate.

B. Upon determining that DOE has failed in a manner set forth in Subsection A, above, EPA and KNREPC shall jointly notify DOE in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, then DOE shall have fifteen (15) Days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur or was caused by force majeure. DOE shall not be liable for the stipulated penalty assessed by EPA and KNREPC if the failure is determined, through the dispute resolution process, not to have occurred or to have occurred as the result of a force majeure event. In the case of a stipulated penalty assessed only by EPA or only by the Commonwealth, the assessing party shall notify DOE, in writing, of the failure. If the failure in question is not already

subject to dispute resolution at the time such notice is received, then DOE shall have fifteen (15) Days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur or was caused by force majeure. DOE shall not be liable for the stipulated penalty assessed by EPA or KNREPC if the failure is determined, through the dispute resolution process, not to have occurred or to have occurred as the result of a force majeure event. No assessment of a stipulated penalty pursuant to this Section shall be final until the conclusion of dispute resolution procedures related to the assessment of the stipulated penalty. DOE's invocation of dispute resolution shall toll the obligation to pay the assessed penalty, but shall not toll the accrual of stipulated penalties.

Assessment of a stipulated penalty by EPA and/or KNREPC shall preclude the agency (ies) assessing such stipulated penalty from seeking to also impose a statutory penalty arising from DOE's failure to meet the same regulatory milestone. Furthermore, in the event of a noncompliance or failure under this Agreement by DOE, neither EPA nor KNREPC individually shall seek penalties under both CERCLA and RCRA/KRS 224 for the same instance of noncompliance or failure.

C. DOE's annual report to Congress required by Section 120(e)(5) of CERCLA, 42 U.S.C. § 9620(e)(5), shall include, with

respect to each final assessment of a stipulated penalty against DOE under this Agreement, each of the following:

1. The facility responsible for the failure;
2. A statement of the facts and circumstances giving rise to the failure;
3. A statement of any administrative or other corrective action taken at the relevant facility, or a statement of why such measures were determined to be inappropriate;
4. A statement of any additional action taken by or at the facility to prevent recurrence of the same type of failure; and
5. The total dollar amount of the stipulated penalty assessed for the particular failure.

D. Stipulated penalties assessed pursuant to this Section shall be payable as follows:

Unless otherwise agreed between EPA and the State, any stipulated penalty assessed by both the State and EPA pursuant to this part shall be divided equally between the Hazardous Substances Response Trust Fund and KNREPC in accordance with KRS 224.10-250.

Any stipulated penalty assessed only by EPA shall be payable to the Hazardous Substances Response Trust Fund. Any stipulated penalty assessed only by the Commonwealth shall be payable to KNREPC in accordance with KRS 224.10-250. The parties recognize

that stipulated penalties assessed by KNREPC are assessed pursuant to RCRA and KRS 224, and not pursuant to CERCLA. Stipulated penalties payable to the Hazardous Substances Response Trust Fund shall be paid from funds authorized and appropriated for that purpose. DOE shall make specific budget requests for payment of assessed stipulated penalties. DOE shall pay stipulated penalties assessed by the Commonwealth of Kentucky under this part within 120 days of the date DOE receives the Commonwealth's demand for payment of a finally-assessed penalty unless KNREPC agrees to a longer schedule. DOE shall request, for stipulated penalties assessed by EPA, specific authorization and appropriation of any such penalty in its budget submission for FY +1, unless DOE has already submitted its final budget for that budget year to OMB, in which case DOE shall request such specific authorization and appropriation in its FY +2 budget submittal.

E. Failure of DOE to comply with the requirements of Section XVIII.D. (Budget Planning) or Section XVIII.E. (Budget Execution for the Current FY) shall not be subject to stipulated penalties under this Section.

F. In no event shall this Section give rise to a stipulated penalty in excess of the amount set forth in Section 109 of CERCLA, 42 U.S.C. § 9609.

G. This Section shall not affect DOE's ability to obtain an extension of a timetable, deadline, or schedule pursuant to Section XXIX (Extensions) of this Agreement.

H. Nothing in this Agreement shall be construed to render any officer or employee of DOE personally liable for the payment of any stipulated penalty assessed pursuant to this Section.

I. Nothing in this Section shall preclude EPA or KNREPC from pursuing any other sanction that may be available to them, in lieu of stipulated penalties, for DOE's failure to meet any requirement of this Agreement. Nor shall anything in this Section preclude EPA or KNREPC from seeking or imposing any injunctive relief that may be available to them to compel DOE's compliance with this Agreement.

XLIV. ENFORCEABILITY

A. The Parties agree that:

1. Upon the effective date of this Agreement, any standard, regulation, condition, requirement, or order which has become effective under CERCLA and is incorporated into this Agreement is enforceable by any person pursuant to Section 310 of CERCLA, 42 U.S.C. § 9659, and any violation of such standard, regulation, condition, requirement, or order will be subject to the civil penalty provisions under Sections 310(c) and 109 of

CERCLA, 42 U.S.C. §§ 9659(c) and 9609; and

2. All Appendix C timetables or deadlines and Site Management Plan CS OU timetables or deadlines associated with the development, implementation and completion of the RI/FS shall be enforceable by any person pursuant to Section 310 of CERCLA, 42 U.S.C. § 9659, and any violation of such timetables or deadlines will be subject to civil penalties under Sections 310(c) and 109 of CERCLA, 42 U.S.C. §§ 9659(c) and 9609;

3. All terms and conditions of this Agreement which relate to interim or final RAs and removal actions (including IM and Corrective Actions), including corresponding timetables, deadlines, or schedules, and all work associated with interim or final RAs and removal actions (including IM and Corrective Actions), shall be enforceable by any person pursuant to Section 310(c) of CERCLA, 42 U.S.C. § 9659(c), and any violation of such terms or conditions will be subject to the civil penalties provisions under Sections 310(c) and 109 of CERCLA, 42 U.S.C. §§ 9659(c) and 9609; and

4. Any final resolution of a dispute pursuant to Section XXV (Resolution of Disputes) of this Agreement which establishes a term, condition, timetable, deadline, or schedule shall be enforceable by any person pursuant to Section 310(c) of CERCLA, 42 U.S.C. § 9659(c), and any violation of such term,

condition, timetable, deadline or schedule will be subject to civil penalties under Section 310(c) and 109 of CERCLA, 42 U.S.C. §§ 9659(c) and 9609.

5. Requirements of this Agreement that are requirements of RCRA and KRS 224 Subchapter 46 shall be enforceable by any person, including the Commonwealth of Kentucky, pursuant to any rights which may exist under section 7002(a)(1)(A) of RCRA. DOE agrees that the Commonwealth of Kentucky or one of its agencies is a "person" within the meaning of section 7002(a) of RCRA. Nothing in this paragraph shall be construed as being in contravention of CERCLA §113(h).

6. Requirements of this Agreement that relate to RCRA or KRS 224 Subchapter 46 may be enforced by KNREPC as requirements of a Corrective Action Order on Consent issued pursuant to KRS 224.46-530.

B. Nothing in this Agreement shall be construed as authorizing any person to seek judicial review of any action or work where review is barred by any provisions of CERCLA, including Section 113(h) of CERCLA, 42 U.S.C. § 9613(h). However, nothing in this paragraph shall prevent KNREPC from taking any action or exercising any right KNREPC may have to enforce any requirement of RCRA or KRS 224 Subchapter 46 and its corresponding regulations.

C. The Parties agree that all Parties shall have the right to enforce the terms of this Agreement.

XLV. TERMINATION AND SATISFACTION

A. To the extent that remedial response actions are conducted in OUs under the provisions of this Agreement, following completion of all response actions at an OU, as specified in the ROD for that OU, and upon written request by DOE, EPA, and KNREPC, will send to DOE a written notice that the response actions selected in the ROD have been completed in accordance with the requirements for that operable unit. This notice shall not serve as written notice of termination and satisfaction of the entire Agreement described under Subsection B of this Section.

B. To the extent that remedial preliminary assessment actions are conducted pursuant to the provisions of this Agreement, following the completion of all response actions (i.e., removal and RAs), including the comprehensive site-wide operable unit, and upon written request by DOE, EPA, and KNREPC will send to DOE a written notice of satisfaction of the terms of this Agreement within ninety (90) Days of the request. The notice shall state that, in the opinion of EPA and KNREPC, DOE has satisfied all the terms of this Agreement in accordance with the requirements of CERCLA, the NCP, Sections 3004(u) and (v),

and 3008(h) of RCRA, 42 U.S.C. § 6928(h), and related guidance, KRS 224 Subchapter 46 and its implementing regulations and applicable state laws and that the work performed by DOE is consistent with the agreed-to response actions.

C. KNREPC may, in its sole discretion, terminate this Agreement upon sixty (60) Days written notice to the other Parties. Termination of the Agreement by KNREPC shall be effective on the 60th Day after such notice, unless KNREPC agrees otherwise in writing before such date. Once termination is effective pursuant to this paragraph, this Agreement shall have no further force or effect as to KNREPC; provided, however, that surviving requirements of this Agreement shall remain enforceable as requirements of a CERCLA § 120 Interagency Agreement between EPA and DOE.

XLVI. EFFECTIVE DATE

This Agreement shall become effective after it is executed by all the Parties and upon the date set by EPA in written notification to all Parties that the Agreement has been finally executed and is effective.

This Agreement will not be executed until such time as all public comment provided during a forty-five (45) day comment period has been addressed by the Parties and incorporated into the Agreement as appropriate.

IT IS SO AGREED:

DATE

James C. Hall
Manager
United States Department of
Energy
Oak Ridge Operations Office

DATE

James E. Bickford
Secretary
Kentucky Natural Resources
and Environmental
Protection Cabinet

DATE

John H. Hankinson, Jr.
Regional Administrator
United States Environmental
Protection Agency

APPROVAL OF DRAFT AGREEMENT FOR PUBLIC COMMENT

The undersigned approve release of this draft Agreement for public comment:

DATE

James C. Hall
Manager
United States Department of
Energy
Oak Ridge Operations Office

DATE

James E. Bickford
Secretary
Kentucky Natural Resources
and Environmental
Protection Cabinet

DATE

John H. Hankinson, Jr.
Regional Administrator
United States Environmental
Protection Agency

APPENDIX A

RCRA/CERCLA Process/Document Comparisons

APPENDIX B

RCRA/CERCLA Units List

APPENDIX C

Current Year Timetables and Deadlines

APPENDIX D

Document Outlines

APPENDIX E

Prior Work

APPENDIX F

Primary Document Review Periods

PRIMARY DOCUMENT D1 REVIEW/COMMENT/REVISION PERIODS

D1 PRIMARY DOCUMENT	ACTIVITY	PERIOD (Days)
Community Relations Plan	EPA/KY Review	90
	DOE Revise	60
RI/FS Work Plan	EPA/KY Review	90
	DOE Revise	60
RI Report	EPA/KY Review	90
	DOE Revise	60
Baseline Risk Assessment	EPA/KY Review	90
	DOE Revise	60
FS Report	EPA/KY Review	90
	DOE Revise	60
Proposed Plan	EPA/KY Review	45
	DOE Revise	30
Removal Notification	EPA/KY Review	30
	DOE Revise	30
RD Work Plan	EPA/KY Review	30
	DOE Revise	15
Final RD Report	EPA/KY Review	30

¹Pursuant to Section XIV.D. of the FFA, the Draft Primary Review Process does not apply to RODs. Instead, DOE will submit a Draft-Final(D2) ROD to EPA and KNREPC within 30 days of the close of the public comment period. In accordance with Section XX.G.2. of the FFA, this D2 document will be subject to a 30 Day period of review.

D1 PRIMARY DOCUMENT	ACTIVITY	PERIOD (Days)
RA Work Plan	DOE Revise	30
	EPA/KY Review	30
Data Management Plan	DOE Revise	30
	EPA/KY Review	60
Final Remediation Report	DOE Revise	30
	EPA/KY Review	90
Site Management Plan	DOE Revise	60
	EPA/KY Review	30
Removal Work Plan	DOE Revise	15
	EPA/KY Review	30
Engineering Evaluation/Cost Analysis	DOE Revise	30
	EPA/KY Review	30
Action Memorandum	DOE Revise	30
	EPA/KY Review	30
Site Evaluation Report	DOE Revise	30
	EPA/KY Review	30
Time-Critical Removal Responsiveness Summary	DOE Revise	30
	EPA/KY Review	30

APPENDIX G

Site Management Plan

