

2174

**FMPC THORIUM MANAGEMENT STRATEGY  
AND CONSENT DECREE SCHEDULE**

02-28-1991

**DOE-FSO/OEPA  
DOE-841-91**

*A<sub>17</sub>*

**LETTER**



## Department of Energy

2174

FMPC Site Office  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705  
(513) 738-6319

FEB 28 1991

DOE-841-91

Gerry G. Ioannides, Director  
Ohio Environmental Protection Agency  
P. O. Box 1049  
1800 WaterMark Drive  
Columbus, Ohio 43266-0149

Dear Mr. Ioannides:

### FMPC THORIUM MANAGEMENT STRATEGY AND CONSENT DECREE SCHEDULE

- Reference:
1. Letter, DOE-318-91, G. W. Westerbeck to R. Shank, "Completion of the Process Knowledge for the 13,000 Drums of Thorium Material," dated November 28, 1990
  - 957 - (2000-704-1) 2. Letter, DOE-546-91, G. W. Westerbeck to R. Shank, "Consent Decree and the Requirements for Newly Determined Waste," dated January 9, 1991
  - G 600-101 3. Letter, DOE-140-91, G. W. Westerbeck to G. E. Mitchell, "FMPC Drum Management Plan," dated October 26, 1990

This letter presents the overall FMPC Thorium Management Strategy and provides the schedule for necessary overpacking and analysis of FMPC thorium materials under Section 3.5.1(e) of the Proposed Amended Consent Decree.

### EXECUTIVE SUMMARY

The FMPC bases the Thorium Management Strategy on three primary objectives that include: (1) maintain environmentally stable interim storage while minimizing personnel radiation exposure, (2) implement required actions to complete RCRA evaluations, and (3) implement long-term storage/disposal alternatives. Activities will be accomplished in a manner that is protective of the health and safety of personnel involved in this work. The existing FMPC thorium inventory has been divided into four categories, A, B, C, and D to facilitate accomplishment of the objectives. Category A thorium materials represent deteriorated containers that have been evaluated under the Proposed Amended Consent Decree and determined to be non-RCRA. Category B thorium materials represent containers that are in good condition but require further action to complete the evaluation specified in the Proposed Amended Consent Decree. Category C thorium materials represent containers that are in good condition that have been evaluated and determined as non-RCRA. Category D represents containers (35 to date) that have been determined to contain RCRA hazardous constituents and will be stored consistent with Section 3.5.1(f) of the Proposed Amended Consent Decree.

Specific actions for each category of thorium materials will include an evaluation of appropriate Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions, completion of all further RCRA evaluations, and provision for final disposition.

## BACKGROUND

A number of key activities have been completed regarding the management of the FMPC thorium inventory. The packaging of the bulk thorium material from the Plant 8 silo and bins along with the demolition of the structures was completed in 1989. The 210 thorium drums that were stored outside and northwest of Building 65 were overpacked by May 1990. Process knowledge evaluations on approximately 14,768 containers of warehoused thorium material were submitted on November 28, 1990 (Reference 1). A compliance schedule for the implementation of hazardous waste requirements for the 35 containers of thorium materials evaluated to be RCRA was submitted on January 9, 1991 (Reference 2). These actions mitigated potential safety and environmental risks resulting from FMPC thorium storage and/or complied with requirements of the Proposed Amended Consent Decree.

## CURRENT THORIUM STORAGE LOCATION AND STATUS

Enclosure I identifies the FMPC warehouses storing thorium materials, the number and condition of containers in each warehouse, the condition of each warehouse, and the evaluation status of the waste streams contained in the warehouse. The assessment of the thorium container condition and the warehouse condition is based upon inspections performed by FMPC personnel during January 1991 and previous inspections by FMPC personnel in 1990. Based on these inspections we believe it is likely that Building 65 warehouse stores most containers that meet the Type I, II or III criteria specified in the FMPC Drum Management Plan (Reference 3). Due to the storage configuration of the containers in the warehouses, and the high penetrating radiation fields, not all containers could be inspected. It is reasonable to assume that of those containers visually inspected (60 to 70% of the total) are representative of the entire warehouse population. This assumption is based on knowledge of the material type and storage conditions similar to those inspected.

The last column in Enclosure I refers to the evaluation status of each waste stream. The evaluation status column identifies whether the thorium materials are RCRA, non-RCRA or needs further action. Reference 1 summarized the process knowledge evaluation status for the thorium materials as of November 28, 1990. Since the initial evaluation, additional process information was evaluated resulting in 5,715 additional containers being reclassified (representing waste stream numbers 30, 34, 41, and 71-LAW) as non-RCRA. A revised process knowledge summary table is provided in Enclosure II. The FMPC is continuing to search for documentation for the remaining waste streams that are listed as "need further actions (NFA)." Much of the documentation has to be retrieved from obscure sources and requires significant time to trace and obtain. We believe that the additional time and effort is justified in consideration of personnel exposure that would be associated with proceeding immediately with sampling.

## OVERALL FMPC THORIUM MANAGEMENT STRATEGY

The Thorium Management Strategy is based on three primary objectives that include: (1) maintain environmentally stable interim storage while minimizing personnel radiation exposure, (2) implement required further actions to complete RCRA

evaluations, and (3) implement long-term storage/disposal alternatives.

These objectives are driven by potential environmental risk resulting from container condition and warehousing, regulatory requirements as detailed in the Proposed Amended Consent Decree, Consent Agreement, and DOE strategic material considerations regarding potential future thorium inventory usage. Based upon the objectives and drivers, the thorium material has been divided into four categories with planned actions for each category. Category A thorium materials represent deteriorated containers that have been evaluated and determined to be non-RCRA. Category B thorium materials represent containers that are in good condition but require further action to complete the evaluation specified in the Proposed Amended Consent Decree. Category C thorium materials represent containers that are in good condition and that have been evaluated and determined to be non-RCRA. Category D thorium materials represent containers that also contain RCRA hazardous constituents. Planned actions are defined in the following sections.

#### **DETERIORATED THORIUM CONTAINERS - CATEGORY A**

We believe, based on visual inspection, the majority of Category A thorium containers are located in Building 65. Category A thorium materials represent deteriorated containers that do not contain RCRA hazardous waste. Further evaluation to determine the appropriate response action is required.

The DOE, as the lead agency under CERCLA, is performing a Removal Site Evaluation (RSE) to determine what, if any, removal actions may be necessary. The RSE will be completed on or before May 31, 1991. After the completion of this RSE, a schedule for any necessary response actions will be submitted to your office as part of a removal action work plan.

#### **CONTAINERS REQUIRING FURTHER EVALUATION ACTIONS - CATEGORY B**

Category B thorium containers, located in Buildings 60, 64, and 67, require further evaluation to determine if the 168 containers are RCRA or non-RCRA. The 168 containers are commingled with other thorium containers in the three warehouses and represent approximately 1% of the thorium containers stored. The further actions are obtaining and evaluating additional process knowledge information, sampling/analysis, visual inspection or a combination of actions. Enclosure III details the schedule for planned actions for Category B containers. This schedule is the Proposed Amended Consent Decree deliverable for necessary overpacking and analysis of thorium materials under Section 3.5.1(e). The schedule in Enclosure III assumes that the Category B thorium containers from Buildings 60, 64, and 67 will be relocated to the middle bay of Building 64. After relocation, the thorium drums may be sampled, inspected or any other necessary actions performed to complete the evaluation process. If any are found to contain RCRA constituents, they will be handled in a manner that is consistent with Section 3.5.1(f) of the Proposed Amended Consent Decree (See Category D). Non-RCRA will be handled in accordance with the requirements of Category C. Deteriorated containers encountered during the overpacking of the Category B thorium containers will be overpacked using standard FMPC procedures and the actions will be consistent with CERCLA requirements.

**GOOD CONDITION, NON-RCRA THORIUM CONTAINERS - CATEGORY C**

Category C containers will be overpacked to prepare for disposal or to facilitate safe handling for interim and long-term storage. The schedule for overpacking Category C containers is concurrent with that of the Category B containers and is included in the schedule provided in Enclosure III. The relocation of Category B containers is concurrent with Category C overpacking activities to minimize personnel radiation exposure by not requiring presorting of the containers in the three warehouses. When a Category B container is located during the overpacking of Category C containers, it will be transported to Building 64 and further evaluation will be conducted under the schedule provided in Enclosure III. Documentation consistent with the requirements of CERCLA will be prepared when deteriorated containers are encountered during the overpacking of the Category C containers. Temporary shielding will be erected to reduce the dose to FMPC personnel overpacking the containers.

**RCRA THORIUM CONTAINERS - CATEGORY D**

Containers determined to be RCRA (35 to date) will be located and moved to RCRA storage consistent with the schedule provided for Category B and C thorium materials (Enclosure III). The relocation of known RCRA containers will be concurrent with Category C overpacking activities to minimize personnel radiation exposure by not requiring presorting of the containers in the three warehouses. Any Category B containers determined to be RCRA will be relocated to RCRA storage in accordance with Enclosure III and the Proposed Amended Consent Decree.

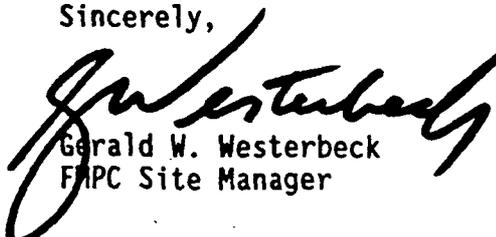
**IMPLEMENTATION OF LONG-TERM STORAGE/DISPOSAL ALTERNATIVES**

Completion of the planned actions described for the four categories of thorium containers meets the first two FMPC thorium management strategy objectives. The third thorium management objective is to implement long-term storage/disposal alternatives for the thorium inventory. DOE is aggressively pursuing an off-site disposal option for thorium materials. If off-site disposal cannot be implemented, DOE will evaluate alternative storage and disposal options for the thorium materials consistent with CERCLA requirements.

**CONCLUSION**

FMPC Thorium Management presents complex environmental, safety, and compliance issues. A major uncertainty remains concerning the final disposition for the thorium materials. The strategy presented in this letter was developed to address these issues and meet the stated objectives. If you have any questions regarding this information, please contact David Rast at (513) 738-6322.

Sincerely,



Gerald W. Westerbeck  
FMPC Site Manager

DP-84:Rast

Enclosures: As stated

## CURRENT THORIUM STORAGE LOCATIONS AND STATUS

BUILDING NUMBER	NUMBER OF CONTAINERS	CONDITION OF CONTAINERS	CONDITION OF WAREHOUSE	EVALUATION STATUS
64	Middle Bay 181 North Bay 201 South Bay 9	Good (210 containers overpacked.)	Fair to Good (Doors and windows in need of repair.)	All containers in the Middle Bay are non-RCRA. North and South Bays: 17 drums require further RCRA evaluation action.
65	5,591	Poor to Fair (Type I, II, and III drums visible.)	Poor to Fair (Doors, windows, and roof in need of repair.)	All containers are non-RCRA.
67	6,027	Fair to Good (Some exterior drum corrosion evident.)	Good	35 containers have been declared RCRA; 5,861 containers declared non-RCRA and 131 containers require further RCRA evaluation.
68	1,314	Good (Minimal exterior drum corrosion evident.)	Good	All containers have been declared non-RCRA.
60	1,788	Excellent (All containers overpacked.)	Good	20 drums need further RCRA evaluation action. 1,768 drums declared non-RCRA.

2174

13-FEB-91

THORIUM STREAMS SUMMARY CHART

PAGE 1

STREAM NUMBER	MAT. TYPE	SRC. CODE	DRUM COUNT	RCRA	Non-RCRA	NFA	EPA ID	LDR	MATERIAL DESCRIPTION	STORAGE LOCATION
1	47	HXA	1		X				Scrap ThO2, high flouride	64
2	75	DZA	2		X				Scrap ThO2, high flouride	64
3	81	341	3		X				Scrap ThO2, high flouride	64
4	85	LAB	1		X				Scrap ThO2, high flouride	64
5	101	FBA	5		X				Scrap ThO2, high flouride	64
5	101	HVA	3		X				Scrap ThO2, high flouride	64
6	103	FZB	16		X				Scrap ThO2, high flouride	64
7	104	FZC	1		X				Scrap ThO2, high flouride	64
7	104	FBX	1		X				Scrap ThO2, high flouride	64
7	104	AIC	1		X				Scrap ThO2, high flouride	64
7	104	340	3		X				Scrap ThO2, high flouride	64
7	104	FVA	1		X				Scrap ThO2, high flouride	64
7	104	MLA	2		X				Scrap ThO2, high flouride	64
7	104	FAX	5		X				Scrap ThO2, high flouride	64
7	104	MBN	1		X				Scrap ThO2, high flouride	64
7	104	FZB	32		X				Scrap ThO2, high flouride	64
7	104	HVA	1		X				Scrap ThO2, high flouride	64
8	109	345	12		X				Scrap ThO2, high flouride	64
9	110	732	2		X				Scrap ThO2, high flouride	64
9	110	PZA	1		X				Scrap ThO2, high flouride	64
9	110	ASA	1		X				Scrap ThO2, high flouride	64
10	115	300	55		X				Scrap ThO2, high flouride	64
10	115	732	13		X				Scrap ThO2, high flouride	64
11	128	HXA	1		X				Scrap ThO2, high flouride	64
11	128	HVA	1		X				Scrap ThO2, high flouride	64
11	128	ZXH	3		X				Scrap ThO2, high flouride	64
11	128	MBN	1		X				Scrap ThO2, high flouride	64
11	128	FZC	4		X				Scrap ThO2, high flouride	64
11	128	DYA	5		X				Scrap ThO2, high flouride	64
11	128	300	1		X				Scrap ThO2, high flouride	64
11	128	DZA	2		X				Scrap ThO2, high flouride	64
11	128	AVA	1		X				Scrap ThO2, high flouride	64
12	131	323	1		X				Scrap ThO2, high flouride	64
12	131	365	1		X				Scrap ThO2, high flouride	64
12	131	MBN	1		X				Scrap ThO2, high flouride	64
12	131	CAF	1		X				Scrap ThO2, high flouride	64
12	131	MIO	1		X				Scrap ThO2, high flouride	64
12	131	PZA	2		X				Scrap ThO2, high flouride	64
12	131	800	1		X				Scrap ThO2, high flouride	64
13	133	HXA	55		X				Scrap ThO2, high flouride	64
13	133	HVA	1		X				Scrap ThO2, high flouride	64
13	133	DZA	5		X				Scrap ThO2, high flouride	64
13	133	MBR	26		X				Scrap ThO2, high flouride	64
14	136	FZC	1		X				Scrap ThO2, high flouride	64
14	136	AIC	3		X				Scrap ThO2, high flouride	64

13-FEB-91

THORIUM STREAMS SUMMARY CHART

PAGE 2

STREAM NUMBER	MAT. TYPE	SRC. CODE	DRUM COUNT	RCRA	Non-RCRA	NFA	EPA ID	LDR	MATERIAL DESCRIPTION	STORAGE LOCATION
14	136	345	2		X				Metals to be oxidized	64
14	136	FZB	19		X				Metals to be oxidized	64
14	136	MGN	1		X				Metals to be oxidized	64
14	136	ASA	2		X				Metals to be oxidized	64
14	136	FAX	1		X				Metals to be oxidized	64
14	136	CBH	1		X				Metals to be oxidized	67
14	136	FZA	1		X				Metals to be oxidized	67
14	136	PZA	1		X				Metals to be oxidized	67
15	138	PZA	4		X				Metals to be oxidized	67
16	140	PZA	23		X				Oxides, clad with other than Al, Zr, SS	64,65,67
16	140	PZA	23		X				Oxides, clad/mixed with Zr	64,65,67
16	140	CZA	3		X				Oxides, clad/mixed with Zr	67
17	141	MBM	1		X				Clad metal for acid dissolution	64
18	166	HVA	2		X				ThO2 pellets- refinery feed	64
18	166	800	7		X				ThO2 pellets- refinery feed	67
18	166	CCS	1		X				ThO2 pellets- refinery feed	67
18	166	JSG	1		X				ThO2 pellets- refinery feed	67
18	166	FAX	129		X				ThO2 pellets- refinery feed	67
18	166	FZG	102		X				ThO2 pellets- refinery feed	67
18	166	YUD	2		X				ThO2 pellets- refinery feed	67
18	166	CZA	2		X				ThO2 pellets- refinery feed	67
18	166	PZA	2212		X				ThO2 pellets- refinery feed	67
19	221	ASA	1		X				Solid Metal for pickling	64
19	221	FBE	1		X				Solid Metal for pickling	64
19	221	LAB	1		X				Solid Metal for pickling	64
19	221	BBA	1		X				Solid Metal for pickling	64
19	221	750	1		X				Solid Metal for pickling	64
19	221	HVA	5		X				Solid Metal for pickling	64
19	221	FAX	2		X				Solid Metal for pickling	64
19	221	300	1		X				Solid Metal for pickling	64
19	221	FZB	106		X				Solid Metal for pickling	64
19	221	320	2		X				Solid Metal for pickling	64
19	221	PZA	1		X				Solid Metal for pickling	64
19	221	CAF	1		X				Solid Metal for pickling	64
19	221	FTA	11		X				Solid Metal for pickling	64
19	221	FBA	4		X				Solid Metal for pickling	64
19	221	DYA	3		X				Solid Metal for pickling	64
19	221	DZA	1		X				Solid Metal for pickling	64
19	221	AVA	1		X				Solid Metal for pickling	64
19	221	LAE	1		X				Solid Metal for pickling	64
19	221	731	1		X				Solid Metal for pickling	67
20	223	CAK	2		X				Solid metal for remelt	64
20	223	FZC	2		X				Solid metal for remelt	64
20	223	DZA	1		X				Solid metal for remelt	64
20	223	PZA	1		X				Solid metal for remelt	64
21	227	FBA	1		X				Metal for double melting	64

13-FEB-91

THORIUM STREAMS SUMMARY CHART

PAGE 3

STREAM NUMBER	MAT. TYPE	SRC. CODE	DRUM COUNT	RCRA	NON-RCRA	NFA	EPA ID	LDR	MATERIAL DESCRIPTION	STORAGE LOCATION
21	227	L28	1		X				Metal for double melting	64
21	227	732	4		X				Metal for double melting	64
21	227	345	1		X				Metal for double melting	64
21	227	320	1		X				Metal for double melting	64
21	227	CYT	1		X				Metal for double melting	67
21	227	DZA	1		X				Metal for double melting	64
22	229	FAK	1		X				Product top-crops for remelt	64
23	300	MIO	1		X				Derbies, code 1 or 3	64
23	300	732	3		X				Derbies, code 1 or 3	67
24	302	955	1		X				Thorium briquettes	64
24	302	300	1		X				Thorium briquettes	64
25	98	100	1		X				Thorium metal, archive samples	64
26	27	361	1		X	X			Contaminated burnable rags, etc.	67
27	29	FBA	5		X				Dust collector bags	67
28	62	HXA	18		X				Dust collector residues - high F	67
29	222	CAF	1		X				Solid metal for remelt	64
30	162	FAK	118		X*				Offsite sump/filter cakes	67
31	167	FVA	13		X				ThO2 powder - refinery feed	67
31	167	YUD	1		X				ThO2 powder - refinery feed	67
31	167	FAK	616		X				ThO2 powder - refinery feed	67
31	167	CCS	2		X				ThO2 powder - refinery feed	67
31	167	HVA	41		X				ThO2 powder - refinery feed	67
31	167	JSG	6		X				ThO2 powder - refinery feed	67
31	167	DZA	772		X				ThO2 powder - refinery feed	67
31	167	PZA	1		X				ThO2 powder - refinery feed	67
32	66	800	1		X				Scrap salts - low F	67
33	47	FBA	1		X*				Non-metallic samples	67
34	215	KHP	4031		X*				Dry Thorium hydroxide	65
34	115	KHP	1564		X*				Wet Th Oxalate Cake	65
35	228	CZA	1		X				Thorium metal to be pickled	67
35	228	DZA	1		X				Thorium metal to be pickled	65
36	7	732	1		X				Thorium waste samples	67
37	17	300	2		X				Contaminated graphite pieces	67
38	27	FBA	2		X				Contaminated burnables: rags, etc.	67
39	29	362	1		X				Dust collector bags	67
40	47	732	9		X*				Non-metallic samples	67
41	53	PZA	1		X				Non-burnable metal with Th	67
42	62	FBA	1		X				Dust collector residues - high F	67
43	66	CAK	5		X				Scrap salts, low F	67
44	69	362	19		X				Wet sump or filter cake	67
44	69	732	2		X				Wet sump or filter cake	67
45	170	CBH	1		X				Th ore concentrate	67
46	78	FBA	1		X				Off-spec. Th oxalate, French src.	67
46	78	300	150		X				Off-spec. Th oxalate, French src.	67
46	78	732	8		X				Off-spec. Th oxalate, French src.	67

13-FEB-91

THORIUM STREAMS SUMMARY CHART

PAGE 4

STREAM MAT. NUMBER	MAT. TYPE	SRC. CODE	DRUM COUNT	RCRA	Non-RCRA	NFA	EPA ID	LDR	MATERIAL DESCRIPTION	STORAGE LOCATION
46	78	FCZ	1		X				Off-spec. Th oxalate, french src.	67
47	79	320	1	X			0001	M (a)	Unfiltered reduction charges	67
48	82	364	10		X				Off-spec. Thf4 (white salt)	67
48	82	732	4		X				Off-spec. Thf4 (white salt)	67
48	82	825	21		X				Off-spec. Thf4 (white salt)	67
48	82	300	4		X				Off-spec. Thf4 (white salt)	67
49	83	300	1		X				Off-spec. Thf4 (white salt)	67
50	98	FBA	4		X	X			Thorium oxide, archive samples	67
51	100	LAE	1		X				Scrap ThO2 - low F	67
51	100	PZA	38		X				Scrap ThO2 - low F	67
51	100	CZA	43		X				Scrap ThO2 - low F	67
51	100	FAX	42		X				Scrap ThO2 - low F	67
51	100	FBA	40		X				Scrap ThO2 - low F	67
51	100	FCZ	3		X				Scrap ThO2 - low F	67
51	100	FZG	1		X				Scrap ThO2 - low F	67
51	100	YUD	1		X				Scrap ThO2 - low F	67
52	101	362	3		X	X			Scrap ThO2 - high F	67
52	101	732	2		X	X			Scrap ThO2 - high F	67
52	101	836	7		X	X			Scrap ThO2 - high F	67
53	102	DZA	1		X				Scrap ThO2	67
53	102	FBA	8		X				Scrap ThO2	67
53	102	PZA	128		X				Scrap ThO2	67
54	202	372	2		X				ThO2 product	67
54	202	732	79		X				ThO2 product	67
54	202	PZA	457		X				ThO2 product	67
54	202	CZA	94		X				ThO2 product	67
54	202	FYC	2		X				ThO2 product	67
54	202	FBA	372		X				ThO2 product	67
54	202	HVA	1		X				ThO2 product	67
55	105	732	1		X				ThO2 from impure thorium nitrate	67
55	105	364	1275		X				ThO2 from impure thorium nitrate	67
56	205	732	1		X				ThO2 from Sol-Gel proc.	67
56	205	FBA	27		X				ThO2 from Sol-Gel proc.	67
57	210	360	30		X				Thf4 (white salt)	67
57	210	ZNX	1		X				Thf4 (white salt)	67
58	130	732	2		X				Partially oxidized metal	67
59	69	732	2		X				Hot slump or filter cake	67
60	254	320	69		X	X			Code 4 derbies	67
60	254	732	2		X				Code 4 derbies	67
61	137	CAK	1		X				Th material for recovery	67
61	137	CZA	1		X				Th material for recovery	67
61	137	PZA	3		X				Th material for recovery	67
62	3	800	18		X				Th material for recovery	67
63	3	730	2		X				Non-recoverable Th trash	60
64	147	732	1		X	X			Non-recoverable Th trash	60
									Ammonia precipitated thorium	67

13-FEB-91

THORIUM STREAMS SUMMARY CHART

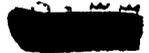
PAGE 5

STREAM NUMBER	HAT TYPE	SRC CODE	DRUM COUNT	RCRA	Non-RCRA	NFA	EPA ID	LDR	MATERIAL DESCRIPTION	STORAGE LOCATION
65	150	FAK	8	X			D001, D002, D007, D008	R (b)	Thorium nitrate solution	67
66	151	FAK	1	X			D001, D002, D007, D008	R (b)	Thorium nitrate solution	67
66	151	FBA	6		X			N (a)	Off-spec. ThO2 (French src.)	67
67	160	CBH	1	X			D001, D007, D008	N (a)	Impure thorium nitrate (solid)	67
67	160	FZC	18	X			D001, D007, D008	N (a)	Impure thorium nitrate (solid)	67
67	160	HYA	1	X			D001, D007, D008	N (a)	Impure thorium nitrate (solid)	67
67	160	PZA	4	X			D001, D007, D008	N (a)	Impure thorium nitrate (solid)	67
67	160	YOK	1	X			D001, D007, D008	N (a)	Impure thorium nitrate (solid)	67
68	166	PZA	13			X		N (a)	ThO2 pellets - refinery feed	67
69	167	800	1624			X			ThO2 powder - refinery feed	60
70	167	CBH	1		X				ThO2 powder - refinery feed	67
70	167	CZA	6		X				ThO2 powder - refinery feed	67
70	167	FCZ	40		X				ThO2 powder - refinery feed	67
71	100	361	42		X				Scrap ThO2 - low F	68
71	100	300	1		X				Scrap ThO2 - low F	67
71	100	732	2		X				Scrap ThO2 - low F	67
71	100	LAV	1		X				Scrap ThO2 - low F	67
72	202	FCZ	4		X*				ThO2 product	67
73	115	FAV	2		X				Wet Th Oxalate Cake	64
74	82	300	4		X				Off-spec. Thf4 (white salt)	67
74	82	323	1		X				Off-spec. Thf4 (white salt)	67
74	82	360	2		X				Off-spec. Thf4 (white salt)	67
74	82	362	1		X				Off-spec. Thf4 (white salt)	67
75	100	800	144		X				Scrap ThO2 - low F	60

Note: NFA - Needs further Action (e.g., additional process knowledge, visual inspection, or sampling and analysis)  
 LDR - restricted from land disposal  
 N (a) - not restricted, variance for "third-thirds" mixed waste through 05/08/92  
 R (b) - restricted from land disposal, LDRs for California list waste promulgated 07/08/87  
 \* - revised since November 1990 notification based on additional process knowledge

PROPOSED AMENDED CONSENT DECREE DELIVERABLE  
THORIUM OVERPACKING AND ANALYSIS SCHEDULE

<u>Activity:</u>	<u>Date:</u>
1. Complete Removal Site Evaluation.	May 31, 1991
2. Initiate overpacking and segregation operations for Category B, C and D containers.	August 1991
3. Complete segregation and necessary overpacking of Category B containers. Complete relocation of Category B containers to middle bay Building 64.	February 1992
4. Complete relocation of 35 Category D containers of thorium materials in Building 67 to RCRA storage areas as required by Section 3.5.1(f) of the Proposed Amended Consent Decree.	February 1992
5. Complete sampling, visual inspections or other necessary actions on thorium containers requiring further RCRA evaluation.	February 1992
6. Complete analysis of samples of thorium for RCRA evaluations.	June 1992
7. Complete evaluation of all further actions, including analysis of samples, for thorium containers requiring further RCRA evaluation.	June 1992
8. Submit report to OEPA on final RCRA determinations.	June 1992
9. Relocate containers of thorium determined to be Category D to RCRA storage areas as required by Section 3.5.1(f) of the Proposed Amended Consent Decree.	August 1992



bcc w/encl.:

R. P. Whitfield, EM-40, FORS  
J. J. Fiore, EM-42, GTN  
W. D. Adams, EW-90, ORO  
W. H. Britton, WMCO  
S. W. Coyle, WMCO  
J. T. Grumski, WMCO  
A. M. Schwartzman, WMCO

