1405

K/EM-120

ACCIDENTIAL RELEASES OF UF_6 FOR THE PERIOD 1980-1985

(Deleted Version of H&S Box 3, Report 53, dated 1980-85)

Compiled by
S. G. Thornton
Environmental Management Division
OAK RIDGE K-25 SITE
for the Health Studies Agreement

April 6, 1995

Oak Ridge K-25 Site
Oak Ridge, Tennessee 37831-7101
managed by MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY
under Contract DE-AC05-84OR21400

This document has been approved for release to the public by:

Asst. David B. Gilliland 4/10/95
Technical Information Officer Date
Oak Ridge K-25 Site

Accidental Releases of UF_6 for the Period 1980 to Date

Date	Estimated Release	Location	No. of Employees	Cause
01-29-80		K-1420	5	Compressor teardown.
03-08-80		K-633	1	Cause unknown.
03-30-80	50 g	K-31	37	Valve had ruptured bellows.
04-24-80		K-1131	8	Maintenance cut into process line.
04-29-80		K-402-9	8	Faulty thermocouple connection.
05-01-80		K-1210	8	
06-13-80		K-1420	7	
06-17-80		K-1131	4	
06-17-80		K-1004-L	2	Seal failure.
07-28-80	6,000 g	K-1413	6	Valving error.
08-23-80		K-1004-C	2	
09-20-80		K-402-9	3	
10-05-80	< 1 g	K-1131	2	Automatic drain valve leak.
10-24-80		K-413	7	Release at sample manifold.
11-13-80		K-1131	3	Leak in West Tails Sample Station.
11-17-80		K-1052	1	Incomplete evacuation of UF_6.
11-26-80		K-413	3	Release due to bad bellows.
11-27-80		K-4029	2	Cutting and installing valves.
12-02-80		K-29	5	Loose seal feed line.
12-01-80	1,533 g	K-1302	77	Valving error.
12-17-80		K-1131	8	Buffer valve.

Total 1980 - 20 Releases

Rev. A

Oak Ridge K-25 Site
Oak Ridge, Tennessee 37831-7314
managed by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY
under Contract DE-AC05-84OR21400

This document has been reviewed for classification and has been determined to be UNCLASSIFIED.
J. C. Adams
ADC Signature
4/5/95
Date

1981

01-06-81		K-31	18	Cut flange.
01-13-81	5 g	K-1423	3	Pigtail leaking.
01-29-81		K-1420	3	Cut vent line.
02-27-81		K-31	1	
02-11-81		K-33	12	
02-06-81		K-1131	4	Leak at HF feed header.
02-27-81		K-413	2	Leak at pump.
03-09-81		K-1004-L	1	Failed compressor shaft seal.
03-10-81		K-1131	3	Purging valve for repairs.
03-21-81		K-1131	1	Smoking plug valve.
03-25-81		K-31	38	Purge Valve.
04-01-81	NO SUCH BLDG ASSUME K-31	K-32	1	Process pipe repairs.
04-07-81		K-633	6	Ruptured bellows on peanut valve
05-13-81		K-1004-L	2	Process exhaust repairs.
05-27-81	2,000 g	K-413	64	Ruptured breached converter.
05-05-81	—	K-1004-L	1	
05-11-81	Which? Both? ~~K-31~~ listed both	K-31-K-33	4	Release of tie line.
05-04-81		K-1131	1	Failed seal.
06-08-81		K-1131	1	Release of compressor vent valve.
06-29-81	5 g	K-1423	2	Cylinder valve leak.
07-15-81		K-1131	5	
07-18-81		K-1131	3	Ruptured pigtail.
10-07-81		K-33	10	Release in line recorder room.
10-15-81		K-1423	3	

10-26-81		K-1004-A	1	Process line not sufficiently purged.
11-23-81		K-1420	10	

Total 1981 - 26 Releases

1982

01-13-82		K-131	2	Freeze out in charge line.
02-22-82	10 g	K-1004-A	4	Valve diaphragm ruptured.
03-01-82		K-29	11	Stage 7 converter burnt out.
03-16-82		K-1420	22	Cutting up burnt out converter.
04-06-82		K-402-9	6	Pulled 3A pump.
05-12-82		K-1131	3	Drain system plugged.
06-02-82		K-1420	1	Frozen valve.
08-19-82		K-1131	1	Bearing failure on tails pump.
08-24-82		K-1131	3	
08-31-82		K-1131	6	
10-28-82		K-1131	11	HF vent stack release.
10-26-82		K-402-9	3	Valve change.
10-11-82		K-413	3	
11-11-82		K-1302	9	
11-10-82		K-633	3	Ruptured bellows.
12-14-82		K-402-9	3	Seal change.
12-09-82		K-402-9		Seal change.

Total 1982 - 17 Releases

1983

01-07-83		K-402-9	3	Seal change.
02-24-83		K-1131	14	Compressor seal leaking.
03-16-83		K-1131	2	Cylinder valve broken.
04-26-83		K-1131	2	Smoking pump openings.
05-26-83		K-1131	6	Seal failure.

05-18-83	K-1423	3	Not known.
06-28-83	K-1131	4	Leak in process seal feed line.
08-29-83	K-1004-A	7	Changing Hood.
08-29-83	K-1131	1	
09-02-83	K-413	2	
09-28-83	K-1131	3	Removing block valve.
10-06-83	K-631	2	
10-31-83	K-1131	2	
10-31-83	K-1131	1	
11-04-83	K-1131	9	
12-06-83	K-413	2	Drain manifold valve leaking.
12-06-83	K-310-3	3	Pipe leaking.
12-05-83	K-1423	0	Drain line leak.

Total 1983 - 17 Releases

1984

01-18-84	K-1004-A	5	Leaking sampling apparatus.
01-23-84	K-402-1	4	Testing line.
02-09-84	K-402-9	8	Valve leak.
02-24-84	K-413	3	Peanut valve.
03-15-84	listed multiple entries { K-631, K-4021	16	Valve change.
04-01-84	K-633	1	Motor shaft.
04-03-84	K-1131	2	Removed seal.
04-15-84	K-1131	2	Seal failure.
05-03-84	K-4029	6	Changing seal.
05-22-84	K-4029	3	Changing seal.

06-05-84		K-413	2	Sample tube developed crack.
07-23-84		K-1131	2	Replacing valves.
07-24-84		K-1131	3	Valve removal.
07-20-84		K-1210	3	Removing pigtails.
08-01-84		K-33	4	Valve removal.
08-15-84		K-1131	3	Burnt hole in line.
09-21-84		K-413	3	Cutting vent line.
09-27-84	5 g	K-1413	3	Pigtail feed line.
09-28-84		K-29	1	Outgas from 2A Seal.
10-02-84		K-1423	3	Drain line smoking.
10-18-84		K-402-8	1	
11-15-84		K-29	10	Seal failure.
12-08-84	5 g	K-1004-L	5	Leaking pigtail.
11-30-84		K-33	5	Cut into line.

Total 1984 - 23 Releases

1985

01-10-85		K-402-9	3	Release from seal cavity.
01-17-85		K-31	2	Changing compressor.
02-04-85		K-413	21	Leaking valve.
02-23-85		K-1131	3	Smoking drain valve.
04-01-85		K-1210	1	Cut into feed line.
04-01-85		K-29	2	Smoking valve.
04-15-85	20 g	Railyard	3	Leaking valve.
04-16-85	70 g	K-1423	6	Drain line blew out when changing cylinders.
04-25-85		K-413	4	Cut in south drain manifold.
04-26-85	5 g	K-413	14	Valve leaking.
04-29-85		K-413	4	Cutting into valve buffer line.

Total 1985 - 12 Releases (To Date)

Accidental Releases of UF_6 for the Period 1980 to Date

Date	Estimated Release	Location	No. of Employees	Cause
03-30-80	50 g	K-31	6	Valve had ruptured bellows.
04-24-80	<1 g	K-1131	2	Maintenance cut into process line.
	All <1 g are listed as 1 g			
04-29-80	<1 g	K-402-9	1	Faulty thermocouple connection.
06-13-80	<1 g	K-1420	1	Equipment dismantling.
06-17-80	<1 g	K-1131	2	Feed system.
07-28-80	6,000 g	K-1413		Valving error.
09-20-80	<1 g	K-402-9	1	Maintenance activity.
10-05-80	<1 g	K-1131		Automatic drain valve leak.
10-24-80	<1 g	K-413	2	Release at sample manifold.
11-26-80	<1 g	K-413	2	Release due to bad bellows.
12-02-80	<1 g	K-29	2	Loose seal feed line.
12-01-80	1,533 g	K-1032	1	Valving error.

Total 1980 - 12 Releases

1981

01-13-81	5 g	K-1423	3	Pigtail leaking.
01-29-81	<1 g	K-1420	1	Cut vent line.
03-09-81	<1 g	K-1004-L	1	Failed compressor shaft seal.
03-10-81	<1 g	K-1131	2	Purging valve for repairs.
04-07-81	<1 g	K-633	1	Ruptured bellows on peanut valve.
05-27-81	2,000 g	K-413		Ruptured breached converter.
06-29-81	5 g	K-1423		Cylinder valve leak.

*Number of employees with initial urine concentrations greater than 0.1 mgU 1 liter. No employees were exposed above the quarterly radiological protection standard.

This document has been reviewed for classification and has been determined to be UNCLASSIFIED.
D. C. Dehm
ADC Signature
4/5/95
Date

Rev. B

07-18-81	<1 g	K-1131	1	Ruptured pigtail.
10-26-81	<1 g	K-1004-A	1	Process line not sufficiently purged
	Total 1981 - 9 Releases			
1982				
02-22-82	10 g	K-1004-A		Valve diaphragm ruptured.
06-02-82	<1 g	K-1420	1	Frozen valve.
08-19-82	<1 g	K-1131	1	Bearing failure on tails pump.
10-11-82	<1 g	K-413	2	Withdrawal equipment smoked.
	Total 1982 - 4 Releases			
1983				
05-18-83	<1 g	K-1423	1	Not known.
09-02-83	<1 g	K-413	1	Leaking valve.
	Total 1983 - 2 Releases			
1984				
02-09-84	<1 g	K-402-9	2	Valve leak.
06-05-84	<1 g	K-413	1	Sample tube developed crack.
07-24-84	<1 g	K-1131	1	Valve removal.
09-21-84	<1 g	K-413	2	Cutting vent line.
09-27-84	5 g	K-1413		Pigtail feed line.
10-18-84	<1 g	K-402-8	1	Maintenance activity.
11-15-84	<1 g	K-29	1	Seal failure.
12-08-84	5 g	K-1004-L		Leaking pigtail.
	Total 1984 - 8 Releases			
1985				
02-04-85	<1 g	K-413	1	Leaking valve.
04-15-85	20 g	Railyard		Leaking valve.

04-16-85	70 g	K-1423		Drain line blew out when changing cylinders.
04-25-85	<1 g	K-413	1	Cut in south drain manifold.
04-26-85	5 g	K-413	14	Valve leaking.

Total 1985 - 5 Releases (To Date)

MARTIN MARIETTA

Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

April 24, 1985

J. C. Bailey
J. F. Hudson

Accidental Releases of UF_6

Please provide a listing of the accidental releases of UF_6 at ORGDP for the period starting 1980 to date. This information should include dates, estimated amount of UF_6 released, building and number of employees involved, and description/cause of the release. At last two sources of information should be combined, uranium accounting records and health physics incident reports. I am asking Julius Hudson to coordinate and would like to have the information in the form of a letter from Mr. Thomas to Mr. Fletcher by May 3, 1985.

If you have questions, please contact me.

W. R. Golliher, K-1020, MS 401, ORGDP (4-9200)

WRG:rcd

cc: File - NoRC

Shift Sup Inc. Report

1- outgassing, no exposure

2 - Outgassing, Pers. exp

3) - UF_6 Releases

	1985			# Emp	Cause	U	Air
1	1/10/85	1130 Am	K4029	3	Release from seal cavity	0	
2	1/17/85	?	K31	2	changing a compressor	0	
*3	2/4/85	4:00 pm	K413	21	Leaking valve	7 samples	
4	2/23/85	7:00 pm	K1131	3	process drain valve smoking	0	0
5	4/1/85	1:00 pm	K1210	1	Cut into feed line line had been purged HF	0	0
6	4/1/85	1:30 pm	K-29	2	valve smoking during maintenance removal	0	0
7	4/9/85		K4029 cell 5		skin cont.		
8	4/15/85	1:45 pm	Railyard	3	Valve leak on cylinder on railcar	0	0
9	4/16/85	1005 A	K1423	6	Drain line had plug of residual mat'l it blew out when changing cylinders.	8 samples	✓
10	4/25/85	1100 A	K413	4	maintenance cut into south drain manifold, small release	1(e)	
11	4/26/85	8:30 Am	K413	14	gasket on control valve leaking		
12	4/29/84	9:00 A	K413	4			

UCN-3689A (125 11-62) DATA SHEET

	Date	Time	Bldg	# Emp Involved	Cause	Urine	Air
(13)	7-20-84	1:10 pm	K1210	3	removing pigtails from MD cylinders - not sufficiently purged or capped	2	α=91.
(14)	8-1-84	11:00 Am	K33	4	Weld shop	0	0
(15)	8-15-84	11:0 Am	K1131	3		0	0
(16)	9-21-84	1:20 pm	K413	3		0	0
(17)	9-27-84 (5g Normal)	1230 Noon	K1413	3	Pigtail feed line from cold trap + heaters burned out so line was not sufficiently purged	2	0
(18)	9-28-84	1050 Am	K29	1		0	0
(19)	10-2-84	1045A	K1423	3	Drain line smoking from residual UF_6 in the line	4 samples	182=
(20)	10-18-84	5:00 Am	K402-8	1		0	0
(21)	11-15-84	9:10	K-29	10	Seal Failure + UF_6 release from K29 PW Booster station	4 samples	0
(22)	12-8-84	8:30 Am	K1004L	5	Leaking Pigtail	1	6 α
(23)	11-30-84	2:00 pm	K-33	5	cut into line	0	0

UCN-3889A (125 11-62) DATA SHEET

1984

	Date	Time	Bldg	# emp involved	Cause	Unp Rla	Air Rla
1	1-18-84	3:15 pm	K1004A	5		0	0
2	1/23-84	8:00 pm	K633 402-1 pipe galley	4		0	0
3	2-9-84	5:30 Am	402-9 Pipe galley	8	valve leak at the process housing in the front of the pipe gallery	3 (U) 1 (α)	1 α=121
4	2-24-84	9:00pm	K413	3	peanut valve not closed tightly in the transmitter cabinet	0	α=23
5	3-15-84	5:00 pm	K631+ K4021	16	Removing bellows and disc assembly from 14" valves	1 μ 1 α	0
6	4-1-84	9:37 Am	K633	1	Loop 3	0	0
7	4-3-84	3:30 pm	K1131 2	2	Outgassing from seal cavity on east tails. Seal had been removed	0	1 α=44.5
8	4-15-84	9:05 Am	K1131	2	Seal Failure on stage 2 comp not a visible release, Triggered UFG alarm sys	(U) 1	0
9	~~5-3-84~~	830 pm	K4029	6	Changing seal in cell 8 (6B)	0	0
10	5-22-84	1:45 pm	K4029	3	Changing seal in cell 9	0	0
11	6-5-84	9:00 pm	K413	2	sample tube developed crack	1	1 α=63.9
12	7-23-84	1100 Am	K1131	2	replacing valves in the table system	0	α=222

UCN-3889A (125 11-82) DATA SHEET

	Date	Time	BIDG	# Emp.	Cause	Urine	Air
9	9-2-83	1130 pm	K413	2		0	
10	9-28-83	1000 Am	K1131	3	Removing block valve & smoked from valve opening	1	1 45.9
11	10-6-83	2:30 pm	K631	2		0	0
12	10-31-83	1840 pm	K 1131	2		0	
13	10-31-83	1:30 pm	K1131	1		0	
14	11-4-83	1:30 pm	K1131	9		0	
15	12-6-83	8 pm ~~1:40 pm~~	K 413	2	drain manifold valve leaking to atm. Bad valve.	1 ∝	160
16	12-6-83	1030 Am	K310-3	3	pipe leaking	0	0
17	12-5-83 → 12-5-83	1230 pm	K1423	0	leak on drain line on transfer manifold		340 dpm

69A 621 DATA SHEET

1980 cont.

	Date	Time	BLDG.	# Emp	Cause	filed RIR urines	filed RIR AIR
(11)	8-23-80	1000 AM	K1004C	2		0	0
(12)	9-20-80	3:00 AM	K402-9	3		1 (u)	0
(13)	10-5-80	1210 NOON	K1131	2	Automatic drain valve leaking around packing	0	0
(14)	10-24-80	8:30 AM	K-413	7	Release at sample manifold release report given to G. McRae	2(u) 2(x)	0 (x+u=3x=1)
(15)	11-13-80	1:30 pm	K1131	3	Leak in west ~~tank~~ sample ~~stream~~ plugged itself up before located	0	0
	(NSEnt 11-17-80)		K1052	1	incomplete evac. of UF_6 from system	0	0
(16)	11-26-80	1200 NOON	K-413	3	release due to bad bellows in 2PGW - main block valve leaking	3	
(17)	11-27-80	7 A.M.	K4029	2	(? maint cutting out + installing valves (there was one leak)	0	0
(18)	12-2-80	0045 AM	K-29	5	maint pulled seal feed line loose + it smoked	2 (u)	0
(19)	12-1-80 2.3 Kgs (3.2%)	855 AM	K ~~1423~~ 1302 (K1423)	77	uranium trapping system was overloaded due to ~~trapping air~~ valving error - smoking from K1302 exhaust stack	4	0
(20)	12-17-80	5:00 A.M.	K1131	8		0	0

TOTAL for 1980 = 20 Releases

1981

(1)	1-6-81	1845	K-31	18		1(x)	
(2)	1-13-81 <5 g	1130 AM	K1423	3	Pigtail leaking from out of service autoclave	0	0 (x=1)
(3)	1-29-81	4:00 pm	K1420	3	cut into vent line + powder fell out	1	0
(4)	2-27-81	?	K31	1		0	0

UCN-3889A (125 11-62) DATA SHEET

Releases [illegible]

1980

Date	Time	Building	# Emp	Cause	filed Incident Rpt Urines	filed Incident Rpt Air
1-29-80 (lasted 3-5 min)	9:00 pm	K-1420	5	Compressor teardown bldg. evacuated	0	Conv Dis 0 (25.3)
(2) 3-8-80	?	K633	1	Employee entered an area of Release (cause unknown)	U=.098 1 sample	0
(3) 3-30-80 (~50g material)	1725	K-31 Cell Floor 602-5.9 602-1.2	37	valve had ruptured bellows when opened UF6 released. 633 Test loop valved to K-31 to remove "lights"	12 samples	0
(4) 4-24-80	2:45 pm	K-1131 Pump Tails Room	8	Maint. cut into process line in tails withdrawal system outgas from pocket of material	4 samples U>.067	0
(5) 4-29-80 (<1 gram)	9:30 pm	4029	8	faulty thermocouple connection	3 samples U(α) 2(α)	0
(6) 5-1-80	1:30 pm	K1210	8	?	0	0
(7) 6-13-80	1040 pm	K1420	7		1	0
(8) 6-17-80	2 a.m.	K1131	4		2 U>.067	0
(9) 6-17-80		K1004L	2		0	0
(10) 7-28-80 133 lb. UF6 (68 lb. accounted for in facility)	6:15 pm	K1413	6	MD cylinder valved into desublimer process piping, which was being evacuated for leak testing. Cause was misvalving. They were discharging thru stack to the atmosphere (normal assay) No contamination found surrounding or downwind of K1413 - only stack		

UCN-3889A (125 11-82) DATA SHEET

1981 cont

	Date	Time	Bldg	# Emp involved	Cause	RIR Urine	RIR AIR
5	2-11-81	1030 Am	K 33	12		1 (Tc)	0
6	2-6-81	1105 Am	K-1131	4	HF leak	0	0 (96.5
7	2-27-81	1145 Am	K413	2		1, 1/2 2 samples	0 (224
8	3-9-81 (K 5g)	530 pm	K-1004L	1	Failed compressor shaft seal. saturated chem trap, seized vacuum pump. Vented to roof.	1 (U)	0 (211
9	3-10-81	530 pm	K-1131	3	? purgeing west trap system isolation valve repair	2 samples	0
10	3-21-81	7:00 pm	K1131	1	plug valve smoking on west drain manifold. Emp. left sample cause he walked in pump room	1	0
11	3-25-81	3:10 pm	K-31	38		1 (U)	0
12	~~4-1-81~~	~~8-4~~	~~K-32~~	~~1~~	~~welding a process pipe while~~		
12	4-1-81	8-4 shift	K-32	1	welding a process pipe Respirator leakage - probable cause	1 (U)	0
13	4-7-81	1045 pm	K633	6	Compressor motor fire peanut valve had a ruptured bellows	1	0
14	5-13-81	130 pm	K1004L	2		0	0
15	5-27-81	1815 Am	K 413 + K502-2	64	Ruptured Breached converter	1	6
16	5-5-81	545 pm	K1004L	1		0	0
17	5-11-81	2:30 pm	K31-K33	4	Release of tie line	0	0

UCN-3889A (12) 11-62) DATA SHEET

1981 cont.

	Date	Time	Bldg	# Emp	Cause	U Air	Air Air
(18)	5-4-81	1000 pm	K1131	1		0	0
(19)	6-8-81	1:45 pm	K1131	1	Release on east system compressor vent valve	0	0
(20)	6-29-81 <5g	10:05 Am	K-1423	2	leak at connection between cylinder valve & sample line	1	0
(21)	7-15-81	1025 Am	K1131	5		0	0
(22)	7-18-81	1015 Am	K1131	3		1 (u)	0
(23)	10-7-81	845 Am	K33	10	release in line recorder room	0	0
(24)	10-15-81	9:30 Am	K1423	3		2 (u)	0
(25)	10-26-81	2:00 pm	K-1004A	1	process line not sufficiently purged on the UF_6 dumping system	1 (u)	0
(26)	11-23-81	10:10 Am	K-1420	10		0	0

TOTAL 1981 = 26 Releases

1982

(1)	1-13-82	2:00 pm	K131	2	freeze out in charge line where insulation was not on line when valve bellows was removed there was smoke	1	0
(2)	2-22-82 10 g	2:30 pm	K-1004A	4	valve diaphragm ruptured during routine UF_6 salvaging (no sample left) Most went into hood		

UCN-3689A (125 11-62) DATA SHEET

1982

	Date	Time	Bldg	# Emp	Cause	Urine	Air
(3)	3-1-82	8:10 pm	K-29	11	Converter burned out	0	0
(4)	3-16-82	1530 pm	K1420	22	cutting up burned out converter	0	0
(5)	4-6-82	1:40 pm	K402-9	6		–	
(6)	5-12-82	2:30 pm	K1131	3		0	0
(7)	6-2-82	11:15 Am	K1420	1	frozen valve in UF_6 cylinder operator was hydrolizing UF_6 cylinder - no respirator on	1	0
(8)	8-19-82	8:10 Am	K 1131	1	Bearing failure on tails pump.	1	
(9)	8-24-82	4:00 pm	K1131	3		0	
(10)	8-31-82	8:30 Am	K1131	6		1	
(11)	10-28-82	12:00 Noon	K-1131	11		0	
(12)	10-26-82	9:30 Am	K 402-9	3		0	
(13)	10-11-82	10:15 am	K413	3		2	
(14)	11-11-82	9:00 AM	K1302	9		0	
(15)	11-10-82	12:15 A.M.	K633	3		0	

UCN-3889A (1125 11-62) DATA SHEET

1982

	Date	Time	BLDG	Emp # of	Cause	Urine	Air
(10)	12-14-82	A.M.	K402-9 cell 10	3	Seal change smoked when seal was removed	3 samples (Tc)	
(12)	12-9-82	unknown	K4029 cell 10		Seal change	1 Tc	
~~(13)~~	~~12-6-82~~	~~8:30 pm~~	~~K 402-9 cell 10~~	~~2~~	~~CONTAM. SAMPLE~~	~~2~~	
	TOTAL 1982 =		17				

1983

	Date	Time	BLDG	Emp # of	Cause	Urine	Air
	1/7/83	?	K4029	3	Seal change	1α	
(1)	2/24/83	11:30 AM	K1131	14	compressor seal leaking smoke detector went off	0	1/225 α
(2)	3/16/83	7:10 pm	K1131	2		0	
(3)	4/26/83	1:30 pm	K1131	2		0	0
(4)	5/26/83	10:45 AM	K1131	6		0	0
(5)	5/18/83	?	K1423	3	not known	0	1/527
(6)	6/28/83	1200 mid night	K1131	4	leak in process seal feed line	1	
(7)	8/29/83	1 p.m.	K1004A	7	changing Hood	0	
(8)	8/29/83	7 pm	K1131	1		0	

UCN-3889A (12-9 11-62) DATA SHEET

MARTIN MARIETTA

Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

September 12, 1985

R. A. Boys, K-1007, MS 058

Request to Change TLD Value

The indicated TLD results for [redacted] (badge [redacted]) for the period 4/83 - 3/84 have been reviewed. The reported doses were 4010 mrem for skin and 4010 mrem for penetrating exposure. These values have been judged as non-occupational. Please change both values to 0 mrem and indicate study results are available in health physics files.

Mike Mahathy

Mike Mahathy, K-1020, MS 404 (4-8868) - RC

JMM:mf

cc: File - JMM

? sub mod. + comment (16 char.)

Mike,

What you are asking me to do can be done by Patty L. using the established TLD procedures. A TLD modification using the code of E (Estimate) and a comment will work. I believe, for what you want.

I called Patty and told her about the letter from you. She is going to follow through.

Bob B 6-1912

September 17, 1985

The following NAD units will be removed and stored by Health Physics. The corresponding TLD for each of the removed NAD units will not be exchanged until and in the event that the units are reinstalled. The units will be removed starting 11-1-85.

Building: K-29 Cell Floor
- Remove ALL

Building: K-31 Cell Floor
- Remove ALL

Building: K-1200
- Remove ALL

Building: K-1220
- Remove ALL

Building: K-1600
- Remove ALL

Building: K-101
- Remove ALL

Building: K-413
- Remove ALL

Building: K-892
- Remove ALL

Building: K-1131
- Remove ALL

A total of 173 units will be removed. Seventy-four units will be left installed at their present locations.

Inspection and TLD replacement of the remaining units will be done according to the following schedule.

Building	Month
K-25	January
K-1420	March
K-1423	May
K-27, K-631	July
K-1004-A, K-1004-J & U, K-1004-L	September
K-1037, K-1410, K-1413, K-1501, K-1650	November

Patty Lowe will reschedule the TLD exchange.

Mike

J. M. Mahathy, K-1020, MS 404 (4-8868) - NoRC

JMM:mf

cc: File - JMM

MARTIN MARIETTA

Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

September 12, 1985

R. A. Boys, K-1007, MS 058

Request to Change TLD Value

The indicated TLD results for [redacted] (badge [redacted] for the period 4/83 - 3/84 have been reviewed. The reported doses were 4010 mrem for skin and 4010 mrem for penetrating exposure. These values have been judged as non-occupational. Please change both values to 0 mrem and indicate study results are available in health physics files.

Mike Mahathy

Mike Mahathy, K-1020, MS 404 (4-8868) - RC

JMM:mf

cc: File - JMM

Changed w/ MCD form 16 Sept 85

REVIEW FORM FOR:
1. Its need and consolidation with other forms in department.
2. Need for each item (each item eliminated reduces clerical work).
3. Reduction of copy distribution.
4. Check blocks to eliminate typing.
5. Items grouped in proper sequence to facilitate recording and completion.
6. Numbering, perforation, punching, rounding corners - results in increased cost:
7. Correct column spacing for information to be entered (show number digits).
8. Margins for gripper, binding and punching.

FORM ORDER

(USE FOR FORMS ONLY - USE REPRODUCTION ORDER FOR OTHER REPRODUCTION SERVICES)

№ 64961

DELIVER TO	ADDRESS	DATE OF ORDER	DATE REQUIRED	ACCOUNT CHARGE
R. S. Lay	K-1020, MS 404	7-18-85	8-8-85	120765-0001

FORM NO.	FORM TITLE OR DESCRIPTION	CLASSIFICATION (& REVIEWER - Y-12
UCN 5597	MATERIAL RELEASE REPORT	

QUANTITY	UNIT	ANNUAL USAGE	FORM IS: (PLEASE CHECK)	OBSOLETES FORM NOS.	PHONE
500	ea		[X] REV. [X] PERMANENT [ ] NEW [ ] TEMPORARY		4-8889

STOCK

[ ] BOND [ ] CARD
[ ] ONIONSKIN [ ] TAG
[ ] TRANSLUCENT BOND [X] NCR
[ ] VELLUM [ ] DUPLIMAT
[ ] LEDGER [ ] _____

SIZE

[ ] 3 X 5 [X] 8 1/2 X 11
[ ] 3 1/4 X 7 3/8 [ ] 8 1/2 X 12
[ ] 4 X 6 [ ] 8 1/2 X 14
[ ] 5 X 8 [ ] 11 X 17
[ ] 5 1/2 X 8 1/2 [ ] _____

COPY/COLOR SEQUENCE

1 [X] WHITE [ ] SALMON
2 [X] ~~CANARY~~ YELLOW [ ] BUFF
[ ] PINK [ ] MANILA
3 [X] BLUE [ ] _____
4 [X] GREEN [ ] _____

PAD [X] YES [ ] NO AT [X] TOP [ ] SIDE — 4 SHEETS PER [ ] PAD [X] SET [ ] PKG — 15 SETS PER [X] PAD [ ] PKG. — PRINT ON [X] ONE SIDE [ ] TWO SIDES — TUMBLE TOP TO [ ] TOP [ ] BOTTOM [ ] LEFT [ ] RIGHT

PUNCH [ ] YES [X] NO — STD. 3HOLE [ ] OR NO. OF HOLES — DIAMETER — INCHES C TO C — POSITION OF HOLES — PRENUMBERED FROM 0001 THRU 0500

CARBON INTERLEAVE [ ] YES [X] NO BY [ ] SETS [ ] STRAIGHT THRU — FORM TO BE FILLED IN BY [ ] HAND [X] TYPEWRITER [ ] IBM [ ] _____ — PERFORATE (EXPLAIN)

STORES ITEM INFORMATION

TO BE STOCKED	ORDER POINT	AMOUNT TO ORDER	REMOVE FROM STORES	ISSUE OLD STOCK	CHARGE TO (ACCOUNT NO.)
[ ] YES [ ] NO			[ ] YES [ ] NO	[ ] NORMAL [ ] COMPLETE [ ] EXCESS	

AUTHORIZATIONS

REQUESTER	DIVISION COORDINATOR	PLANT COORDINATOR	CENT. FORMS COORDINATOR
Rhonda S. Lay			

UCN-2882
(12356 7-69)

[ ] USE REVERSE SIDE FOR ADDITIONAL INFORMATION

old format

MATERIAL RELEASE REPORT

SEE SPP 354, "Reporting of Accidents, Injuries, or Other Unusual Operating Incidents"

Time of Release _____ Foreman in Charge
Date of Release _____ At Time of Release _____
Type of Material (F_2, UF_6, Etc.) _____ Duration or Release _____

Location _____
(BUILDING) (FLOOR) (EQUIPMENT INVOLVED)

Approximate Amount of Release _____ Time Emergency Cleared _____
Description of Release (Cause, Area Affected, Etc.) _____

PERSONNEL REFERRED TO THE DISPENSARY

NAME	BADGE NO.	LOCATION AT TIME OF RELEASE

OTHER PERSONNEL IN AREA

MONITORING FOR RADIOACTIVE CONTAMINATION
AIR-BORNE ALPHA ACTIVITY

LOCATION	TIME	ACTIVITY (C/MIN/FT^3)

SURFACE ALPHA CONTAMINATION

RANGE IN C/MIN	SURFACE	WIPE
Class I	500 - 2000	100 - 500
Class II	2000 - 10,000	500 - 2000
Class III	> 10,000	> 2000

BETA-GAMMA RADIATION

RANGE	MREP / HR
Class I	7.5 - 37.5
Class II	37.5 - 300
Class III	300 - 3000
Class IV	> 3000

BEFORE DECONTAMINATION				AFTER DECONTAMINATION			
AREA (FT^2)		MAX. READING		AREA (FT^2)		MAX. READING	
SURFACE	WIPE	SURFACE	WIPE	SURFACE	WIPE	SURFACE	WIPE

MAXIMUM READING	READING AT 1'	7.5 MREP/HR DISTANCE	MAXIMUM READING	READING AT 1'	7.5 MREP/HR DISTANCE

Clean-up Method Used _____ Cost of Clean-up _____
What Specific Actions Have Been Taken to Prevent a Similar Incident? _____

SUPERVISOR _____ DEPARTMENT _____ DATE _____
APPROVED: DIVISION SUPERINTENDENT
OR REPRESENTATIVE _____ DATE _____

DISTRIBUTION:

(1) WHITE - SAFETY, FIRE, AND RADIATION CONTROL
(2) YELLOW - URANIUM CONTROL
(3) BLUE - DIVISION
(4) GREEN - SUPERVISOR

UCN-5597
(1 10-70)

Number_____

MATERIAL RELEASE REPORT

Time of Release _____ Foreman in Charge _____
Date of Release _____ Duration of Release _____
Type of Material _____ Assay Analysis _____
(F_2, UF_6, etc.)

Location _____
(Building) (Specific Area) (Equipment Involved)
Approximate Amount of Release _____ Time Area Declared Clear _____

Description of Release (Cause) _____

****

PERSONNEL INVOLVED

NAME	BADGE	JOB TITLE	Urinalysis Requested	Referred to Medical
			☐ YES ☐ NO	☐ YES ☐ NO
			☐ YES ☐ NO	☐ YES ☐ NO
			☐ YES ☐ NO	☐ YES ☐ NO
			☐ YES ☐ NO	☐ YES ☐ NO
			☐ YES ☐ NO	☐ YES ☐ NO
			☐ YES ☐ NO	☐ YES ☐ NO

****

AIR MONITORING RESULTS

Location	Time	Alpha dpm/m^3	Chemical Results (positive/neg.)	Other Analysis Specify

Was Surface Contamination Survey Required? _____
(If YES, Attach a Copy)
Clean-up Method Used _____
What Actions Have Been Taken to Prevent a Similar Incident? _____

Supervisor _____ Department _____ Date _____
Approved: Division Superintendent
or Representative _____ Date _____

****

DISTRIBUTION:

(1) WHITE - Radiation Safety Department (Health Physics) - RC
(2) YELLOW - Uranium Accountability
(3) BLUE - Division
(4) GREEN - Supervisor

RADIATION INCIDENT REPORT - AIR SAMPLE

Incident Number: _____ Sample Number: _____

Sample Location: _____

Sample Pick-up Date: _____

Date Sample Results Reported: _____

Sample Results: _____

_____

_____

_____

_____ Date

_____ Radiation Safety Department
ORGDP - Health Physics

Date and Time Incident Occurred: _____

Investigation Findings: _____

_____

_____

_____

Number of Employees Involved: _____

Number of Employees Wearing Respirators: _____

Number of Employees Leaving Urine Samples: _____

Corrective Action: _____

_____

_____

Division Representative: _____

Distribution:

	1985			# Emp	Cause	U	Air
1	1/10/85	1130 Am	K4029	3	Release from seal cavity	O	
2	1/17/85	?	K31	2	changing a compressor	O	
* 3	2/4/85	4:00 pm	K413	21	Leaking valve	7 samples 17.1	
4	2/23/85	7:00 pm	K1131	3	process drain valve smoking	O	O
5	4/1/85	1:00 pm	K1210	1	Cut into feed line line had been purged HF	O	O
6	4/1/85	1:30 pm	K-29	2	valve smoking during maintenance removal	O	O
7	~~4/9/85~~		~~K4029~~ cell 5		~~skin cut~~		
8	4/15/85	1:45 pm	Railyard	3	Valve leak on cylinder on railcar	O	
9	4/16/85	1005 A	K1423	6	Drain line had plug of residual mat'l it blew out when changing cylinders.	8 samples 17.1	✓
10	4/25/85	1100 A	K413	4	maintenance cut into south drain manifold, small release	1(L)	
11	4/26/85	8:30 AM.	K413	14	Bad gasket on control valve leaking		
12	4/29/84	9:00 A	K413	4	cutting into valve buffer line - momentary puff of smoke		

UCN-3889A (125 11-62) DATA SHEET

Releases 1980 - 1985

1980

Date	Time	Building	# Emp	Cause	filed Incident Rlc Urines	Conv Z Air
1-29-80 (Posted 3-5 min)	9:00 pm	K-1420	5	Compressor teardown Bldg. evacuated	0	0 (25.3)
(2) 3-8-80	?	K633	1	Employee entered an area of a Release (Cause unknown)	U=.098 1 sample	0
(3) 3-30-80 (~50g material)	1725	K-31 Cell Floor 602-5.9 602-1.2	37	Valve had ruptured bellows when opened UF6 released. 633 Test loop valved to K-31 to remove "lights"	12 samples 67.10g	0
(4) 4-24-80	2:45 pm	K-1131 Pumptank Room	8	Maint. cut into process line in tanks with argon system outgas from pocket of material	4 samples U>.067 27.10	0
(5) 4-28-80 (K1 gram)	9:30 pm	4029	8	Faulty thermocouple connection	3 samples MC 2(α) 17.10	0
(6) 5-1-80	1:30 pm	K1210	8	?	0	0
(7) 6-13-80	10:40 am	K1420	7		1 17.1	0
(8) 6-17-80	2 A.M.	K1131	4		2 U>.067 27.1	0
(9) 6-17-80		K1004L	2	Seal failed on Cell 5 Stg 3 pump.	0	0
(10) 7-28-80 133 lb. UF6 (1/2 lb. accumulated in cooling)	6:15 pm	K1413	6	MD cylinder valved into desublimer process piping, which was being evacuated for leak rating. Cause was misvalving. They were discharging thru stack to the atmosphere (normal assay) No contamination found surrounding or downwind of K1413 stack		

UCN-3889A (125 11-62) DATA SHEET

1980 cont.

	Date	Time	BLDG.	# Emp	Cause	filed RIR urines	filed AIR
(11)	8-23-80	1000 AM	K1004C	2		0	0
(12)	9-20-80	3:00 AM	K402-9	3		1 (u) >.1	0
(13)	10-5-80 <1 gm	1210 NOON	K1131	2	Automatic drain valve leaking around packing	0	0
(14)	10-24-80	8:30 AM	K-413	7	Release at sample manifold release report given to G. McRae	2(u) >.1 2(x)	0 (x413x=1)
(15)	11-13-80	1:30 pm	K1131	3	Leak in west ~~tank~~ sample ~~stand~~ plugged itself up before located	0	0
	INSERT 11-17-80		K1052	1	incomplete evac. of UF_6 from system	0	0
(16)	11-26-80	1200 NOON	K-413	3	release due to bad bellows in 2P6W - main block valve leaking	3 >.1	
(17)	11-27-80	7 A.M.	K4029	2	(maint cutting out valves + installing there was one leak)	0	0
(18)	12-2-80	0045 AM	K-29	5	maint pulled seal feed line loose + it smoked	2 (u=) >.1	0
(19)	12-1-80 2.3 Kgs (3.2%)	855 AM	K ~~1420~~ 1302 (K1423)	77	uranium trapping system was overloaded due to ~~trapping~~ valving error - smoking from K1302 exhaust stack	4 >.1	0
(20)	12-17-80	5:00 A.M.	K1131	8	very small UF_6 release while MM working on Buffer valve ~~smoked~~ smoked around bellows	0	0

TOTAL for 1980 = 20 Releases

1981

(1)	1-6-81	1845	K-31	18	maint cut flange off 2HB1 + small UF_6 small release	1(x)	
(2)	1-13-81 <5 g	1130 AM	K1423	3	pigtail leaking from out of service autoclave	0	0 (x=111)
(3)	1-29-81	4:00 pm	K1420	3	cut into vent line + powder fell out	1	
(4)	2-27-81	?	K31	1		0	0

UCN-3889A (125 11-62) DATA SHEET

1981 cont

	Date	Time	Bldg	# Emp involved	Cause	RIR Urine	RIR AIR
3	2-11-81	1030 AM	K 33	12		1 (Tc)	0
6	2-6-81	1105 AM	K-1131	4	~~The~~ leak was fluorine leak at HF feed header	0	0 (86.5 [illegible])
7	2-27-81 very small amt	1145 AM	K413	2	Placing west PW. on + had a small UF6 Release on Inst. blister for w PW Pump. leak repaired	1, 4, 12 2 samples	0 (224 [illegible])
8	3-9-81 (< 5g)	530 pm	K-1004L	1	Failed compressor shaft seal. saturated chem trap, seized vacuum pump. Vented to roof.	1 (U)	0 (211 [illegible])
9	3-10-81	530 pm	K-1131	3	? purging west trap system isolation valve repair	2 samples	0
10	3-21-81	7:00 pm	K1131	1	plug valve smoking on west drain manifold. Emp. left sample cause he walked in pump room	1	0
11	3-25-81	3:10 pm	K-31	38	Repairing purge valve line on 2AB2	1 (U)	0
12	4-1-81	8-4	K-32	1	Smoke coming from hole welder cut in buffer line		
12	4-1-81	8-4 shift	K-32	1	welding a process pipe Respirator leakage - probable cause	1 (U)	0
13	4-7-81	1045 pm	K633	6	Compressor motor fire peanut valve had a ruptured bellows	1	0
14	5-13-81	130 pm	K1004L	2	installing air jet in process exhaust when P.G. gas burped backwards from an adjacent system. Jet valve was not isolated	0	0
15	5-27-81	1815 AM	K 413 + K502-2	64	Ruptured Breached converter	1	6
16	5-5-81	545 pm	K1004L	1		0	0
17	5-11-81	2:30 pm	K31-K33	4	Release of tie line	0	0

UCN-3889A (125 11-62) DATA SHEET

1981 cont.

	Date	Time	Bldg	# Emp	Cause	U RIR	AIR RIR
(18)	5-4-81	1000 pm	K1131	1	seal failed on east Tails w/ system + partially plugged vent header	0	0
(19)	6-8-81	1:45 pm	K1131	1	Release on east system compressor vent valve	0	0
(20)	6-29-81 <5g	10:05 Am	K-1423	2	leak at connection between cylinder valve + sample line	1 α	0
(21)	7-15-81	1025 Am	K1131	5	[illegible]	0	0
(22)	7-18-81	1015 Am (feed nozzle was plugged)	K1131	3	disconnecting pigtail - smoked the pigtail was put on serpentine heaters + ruptured	(1)(u)	0
(23)	10-7-81 max assay was .66	845 Am	K 33	10	release in line recorder room, they were repairing line recorder manifold leak at solder joint	0	0
(24)	10-15-81	9:30 Am	K1423	3		2(α)	0
(25)	10-26-81	2:00 pm	K-1004A	1	process line not sufficiently purged on the UF_6 dumping system	(1)(u)	0
(26)	11-23-81	10:10 Am	K-1420	10		0	0

TOTAL 1981 = 26 Releases

1982

(1)	1-13-82	2:00 pm	K131	2	freeze out in charge line where insulation was not on line when valve bellows was removed there was smoke	1	0
(2)	2-22-82 10 g	2:30 pm	K-1004A	4	valve diaphragm ruptured during routine UF_6 salvaging (no sample yet) Most went into hood		

UCN-3889A (125 11-62) DATA SHEET

1982

	Date	Time	Bldg	# Emp	Cause	Urine	Air
(3)	3-1-82	8:10 pm	K-29	11	stage 7 Converter burned out cell lost all pressure. Racked out. Air samples taken	0	0
(4)	3-16-82	1530 pm	K1420	22	cutting up burned out converter	0	0
(5)	4-6-82	1:40pm	K402-9	6	pulled 3A pump + pump smoked HA + Shif. S notified. Air sampled Bolted Pump up + purged		
(6)	5-12-82	2:30pm	K1131	3	Both Drain System plugged. Small release of air regulator valve Pump room was Resp. Area until 4-12 shift then O.K'ed by H.P.	0	0
(7)	6-2-82	11:15Am	K1420	1	frozen valve in UF_6 cylinder Operator was hydrolizing UF_6 cylinder - no respirator on	1	0
(8)	8-19-82 3 g.	8:10 Am	K1131	1	Bearing failure on tails pump.	1	
(9)	8-24-82	4:00pm	K1131	3	UF_6 release see incident reports	0	
(10)	8-31-82	8:30 Am	K1131	6		1	
(11)	*10-28-82	12:00 Noon	K-1131	11	HF Vent stack release (NOT UF_6 Release)	0	
(12)	10-26-82	9:30 Am	K 402-9	3	probably during a valve change	0	
(13)	10-11-82	10:15am	K413	3	small release see inc. report	2	
(14)	11-11-82	9:00 Am	K1302	9		0	
(15)	11-10-82	12:15 AM.	K633	3	received release alarm Bellows ruptured on valve. (Incident Report)	0	

UCN-3889A (125 11-62) DATA SHEET

1982

	Date	Time	BLDG	Emp # of	Cause	Urine	Air
(16)	12-14-82	A.M.	K402-9 cell 10	3	Seal change smoked when seal was removed	7 Samples (Tc)	
(17)	12-9-82	unknown	K4029 cell 10		Seal change	1 Tc	
~~(18)~~	~~12-6-82~~	~~8:30 pm~~	~~K 4029 cell 10~~	~~2~~	~~CONTAM. SAMPLE~~	~~2~~	

TOTAL 1982 = 17

1983

	Date	Time	BLDG	Emp # of	Cause	Urine	Air
	1/7/83	?	K4029	3	Seal change	1α	
(1)	2/24/83	11:30 AM	K1131	14	compressor seal leaking smoke detector went off	0	1/225 α
(2)	3/16/83	7:10 pm	K1131	2	Side feed cyl valve broken see inc. report	0	0
(3)	4/26/83	1:30 pm	K1131	2	~~Small release when checking [illegible]~~ Pump opening removal were smoking after	0	0
(4)	5/26/83	10:45 AM	K1131	6	East Tails System 2 seal failed. ~~See inc. report~~ UF_6 Alarm. Seal Failure	0	0
(5)	5/18/83	?	K1423	3	not known	0	1/577 α
(6)	6/28/83	1200 mid night	K1131	4	leak in process seal feed line	(1)	
(7)	8/29/83	1 p.m.	K1004A	7	changing Hood	0	
(8)	8/29/83	7 pm	K1131	1		0	

UCN-3889A (125 11-62) DATA SHEET

	Date	Time	BLDG	# Emp.	Cause	Urine	Air
(9)	9-2-83	1130 pm	K413	2		0	
(10)	9-28-83	1000 Am	K1131	3	Removing block valve - smoked from valve opening	1	1 45.9
(11)	10-6-83	2:30 pm	K631	2		0	0
(12)	10-31-83	1840 pm	K 1131	2		0	
(13)	10-31-83	1:30 pm	K1131	1		0	
(14)	11-4-83	1:30 pm	K1131	9		0	
(15)	12-6-83	8 pm ~~1140 pm~~	K 413	2	drain manifold valve leaking to atm. Bad valve.	1∝	160 2
(16)	12-6-83	1030 Am	K310-3	3	pipe leaking	0	0
(17)	12-5-83 → 12-5-83	1230 pm	K1423	0	leak on drain line on transfer manifold		3400 pm

UCN-3889A (125 11-62) DATA SHEET

1984

	Date	Time	Bldg	# emp involved	Cause	Unpu Air	Air Air
0	1-18-84 2grams	3:15 pm	K1004A	5	UF_6 sampling apparatus leaked after being damaged	0	0
2	1/23-84	8:00 pm	402-1 pipe gallery	4	Drilling out a plugged inst. testing line to bellows of valve. smoke came out (whisper of smoke)	0	0
3	2-9-84 <5g	5:30 Am	402-9 Pipe gallery	8	valve leak at the process housing in the front of the pipe gallery	3 (u) 1 (α) 27.1	α=.121
4	2-24-84	9:00pm	K413	3	peanut valve not closed tightly in the transmitter cabinet	0	α=23.6
5	3-15-84	5:00pm	K631+ K4021	16	Removing bellows and disc assembly from 14" valves outgassing (5 valves changed)	1 u 1 α	0
6	4-1-84	9:37 Am	K633	1	B seal had a small amt (Loop 3) of UO_2F_2 on motor shaft	0	0
7	4-3-84	3:30 pm	K1131	2	Outgassing from seal cavity on east tails. Seal had been removed	0	α=44.4
8	4-15-84	9:05 Am	K1131	2	Seal Failure on stage 2 comp (u) not a visible release, Triggered UF_6 alarm sys	1	0
9	5-3-84	830 pm	K4029	6	Changing seal in cell 8 (6B) smoking from seal cavity	0	0
10	5-22-84	1:45 pm	K4029	3	Changing seal in cell 9 small whiff of smoke	0	0
11	6-5-84	9:00 pm	K413	2	sample tube developed crack - outgassing product	1	α=63.9
12	7-23-84	1100 Am	K1131	2	replacing valves in the tails system outgassing	0	α=22
	7-24-84	9:00 Am	K1131	3	MM cut into east tails vent line to remove valve. A small amount of smoke was seen coming from cut		

UCN-3889A (125 11-62) DATA SHEET

	Date	Time	Bldg	# Emp Involved	Cause	Urine	Air
13	7-20-84	1:10 pm	K1210	3	removing pigtails from MD cylinders - not sufficiently purged or capped	2 17.1	α=91.
14	8-1-84	11:00 Am	K33	4 (preparing to clear valve)	Weld shop in K-33 cold trap, smoked as it was opened. A valve removed from cold trap, tapped up	0	0
15	8-15-84	11:0 Am	K1131	3	welder was welding to connect Erac & Line + burned hole in line. Small amt of UF_6 released	0	0
16	9-21-84	1:20 pm	K413	3	Cutting vent line - gassing of deposits in the line	0	0
17	9-27-84 (5g Normal)	1230 Noon	K1413	3	Pigtail feed line from cold trap + heaters burned out so line was not sufficiently purged	2	0
18	9-28-84	1050 Am	K29	1	Out gas from 2A Seal when pressured above ATM.	0	0
19	10-2-84	1045A	K1423	3	Drain Line smoking from residual UF_6 in the line Building evacuated	4 samples	182=
20	10-18-84	5:00 Am	K402-8	1	~~[illegible]~~	0	0
21	11-15-84	9:10	K-29	10	Seal Failure + UF_6 release from K29 PW Booster station	4 samples 17.1	0
22	12-8-84 <5g	8:30 Am	K1004L	5	Leaking Pigtail from incomplete purging	1	658=α
23	11-30-84	2:00 pm	K-33	5	Cut into line	0	0

UCN-3889A (125 11-62) DATA SHEET

Accountability Records

Date	Estimated Loss	Bldg.	No. of Employees	Description
	4/4-235 = Accumulange			
✓ 7/28/80	6 kg/0 = Normal	K1413	6	Valving error with MD cyl. - 19 lbs lost
12/1/80	1533/49 = Enr.	K1302/ K1423	7	Valve ruptured - Stack release
1/13/81	5/0 = Enr.	K1423	3	Pigtail leak
5/27/81	2 kg/64 = Enr.	K-29	8	Cell release due to Hi temp-reaction
6/29/81	5/0 = Enr.	K1423	2	leak between cylinder valve + sample line
2/12/82	0/0 (10 g) = Normal	K1004A	2	valve diaphragm ruptured
~~5/ /82~~	~~2 kg/64 = Enr.~~	~~K 413~~		
4/15/85	0/0 = Depleted	K-1059	3	leaking valve on cyl on railcar - no transfer contamination
4/16/85	? = Enr.	K1423	6	Plug blew out of evac fill line - static release
4/26/85	8/0 = ?	K413	14 ~~(12 Overexpos)~~	Valve gasket failed

Possibles?

Date	Est. Loss	Bldg	No of Employees	Description
1-29-80	?	K1420	5	Compressor teardown Bldg. Evacuated
3-30-80	~50 g	K-31	37	Valve had ruptured bellows
4-24-80	?	K-1131	8	Maint. cut into process line in tails withdrawal system
3-9-81	~5 g	K1004L	1	Failed Compressor Seal
-11-81	?	K31-533	4	Release of tie line
9-27-84	5g: Normal	K1413	3	Pigtail heater burned out - not suff. purged
2-4-85		K-413	21	Leaking Valve -

OFFICE MEMORANDUM

TO: W. F. Thomas

FROM: A. J. Legeay

DATE: May 21, 1982

SUBJECT: Uranium Material Releases

File

82 MAY 24 A 9:07

Attached is a listing of accidental material releases of one kilogram uranium or greater occurring at the ORGDP for the period from start-up through May 1, 1982. These data were obtained from the best available records where measured values were given. In some instances, primarily during the early years, the isotopic value of the release can only be inferred as normal, depleted, or enriched, based on the plant location of the release and the known operation at that location.

A. J. Legeay

AJL:ojr

Attachment

cc/att: J. F. Hudson
J. E. Shoemaker/L. E. Wheeler
File - AJL (NoRC)

UCN-3841
(12356 6-70)

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY WT. % U-235	CAUSE
04-28-45	K-302-5	UF_6	9,200	Product	Product drain line valve bellows ruptured.
11-09-46	K-306-7	UF_6	1,183	60.00	Release from cylinder valve during cap removal.
07-26-48	K-1405	Solution	1,492	NA	Failure to plug opening in equipment.
09-28-48	K-1303	Solution	2,132	NA	Corroded equipment leaked.
09-28-48	K-1405	UO_2	4,517	NA	Powder blown to atmosphere.
04-29-49	K-1405	Solution	1,599	NA	Corroded tank leaked.
05-02-49	K-1405	Solution	1,592	NA	Corroded tank leaked.
09-04-49	K-631	UF_6	45,081	Tails	Kerotest cylinder valve broke off near weld.
04-14-50	K-1405	UF_6	9,200	NA	Cold trap leak due to defective valve.
04-17-50	K-1405	UF_6	3,373	NA	Cold trap inlet valve leaked.
06-28-50	K-1405	UF_6	122,668	0.71	Hydraulic rupture of over filled cylinder.
04-28-51	K-1405	UF_6	28,046	Depleted	Valve leak on by-pass to exhaust stack.
06-03-51	K-1405	UF_6	10,735	NA	Line leak when purged.
07-12-51	K-1405	UF_6	3,067	0.71	Leaking gaskets in pilot plant.
07-02-51	Vault 16A	Solution	79,582	0.71	Leak from corroded drums.
07-20-51	K-1131	UF_6	43,612	0.71	Leaking valve seat on purge line.
08-05-51	K-1131	UF_6	61,334	Depleted	Fracture of cylinder end plate.
08-09-51	K-1405	UF_6	12,269	0.71	Plugged line leaked when opened.
08-24-51	K-602-4	UF_6	1,227	0.49	Seal failure.

NA NOT AVAILABLE

Legger

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY WT. % U-235	CAUSE
09-14-51	K-1405	UF_6	3,401	0.71	Spilled from barrier tube.
09-22-51	K-631	UF_6	14,008	Depleted	Thermowell leak on charge line to AC pump.
11-05-51	K-1405	UF_6	3,067	0.71	Loose flange connection.
11-08-51	K-1405	UF_6	3,401	NA	Unknown.
11-14-51	K-1405	UF_6	3,066	0.71	Line cut to release plug.
11-21-51	K-402-8	UF_6	1,534	0.52	Valving error.
01-03-52	K-631	UF_6	1,165	0.69	Plugged line vaporized when opened.
01-16-52	K-413	UF_6	3,665	0.71	Opened valve, safety cap removed.
04-01-52	K-1004A	UF_6	1,108	0.45	Overfilled sample cylinder leaked.
05-19-52	K-631	UF_6	1,533	4.83	Faulty gasket on cylinder valve leaked.
05-20-52	K-1401	UF_6	7,666	0.71	Stokes pump casing burst.
05-27-52	K-1401	UF_6	7,688	0.71	Stuck valve to Stokes pump.
06-52	Laboratory	NA	1,108	NA	NA.
07-18-52	Vault 16A	Solution	1,815	NA	Corroded drum leak.
08-52	Cascade	UF_6	1,534	NA	NA.
08-52	Development	UF_6	7,011	NA	NA.
09-09-52	K-131	UF_6	20,672	0.71	Ruptured feed pigtail.
09-19-52	K-1131	UF_6	306,718	0.71	High pressure in cold trap due to HF, caused rupture disk to release pressure.
10-03-52	K-631	UF_6	15,335	NA	Bad gasket on pigtail connection.

NA=NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY WT. % U-235	CAUSE
10-06-52	K-1131	UF_6	15,333	0.71	Ruptured cold trap tube.
10-10-52	K-631	UF_6	4,600	0.43	Pressure instrument on feed line broke.
11-03-52	K-413	UF_6	3,067	0.46	Cut into process line.
12-01-52	K-1303	Uranyl Nitrate	7,488	Enriched	Leak from product evaporator.
12-03-52	K-1301	UF_6	1,626	0.43	Leak from cylinders on transfer operation.
12-29-52	K-306-7	UF_6	1,534	Product	Ruptured bellows on a B-4 pump.
12-30-52	K-306-7	UF_6	6,133	Product	Ruptured sample line.
12-30-52	K-402-1	UF_6	768,520	0.56	Valve failure on a liquid feed cylinder.
12-52	Coded Chem.	Solution	1,626	NA	Leak from corroded drum.
01-08-53	K-131	UF_6	59,193	Feed	Defective cylinder valve.
01-13-53	K-631	UF_6	138,015	0.65	Hose blew off drain line.
04-15-53	K-631	UF_6	1,534	0.65	Bearing failure on compressor.
05-10-53	K-631	UF_6	15,336	0.65	NA.
05-10-53	K-633	UF_6	6,133	NA	Cold trap vented to alumina trap which over loaded and vented to atmosphere.
05-25-53	K-413	UF_6	37,849	0.71	Cylinder exploded, oil UF_6 mixture.
06-01-53	K-1131	UF_6	269,143	0.67	Valve retaining nut split, upper part of valve blown from body.
08-02-53	K-413	UF_6	5,000	0.80	Release when alumina traps opened.

NA-NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	GRAM. GRAMS	ASSAY WT. % U-235	CAUSE
09-06-53	K-402-4	UF_6	23,003	0.71	Valve opened in error.
09-07-53	K-131	UF_6	3,067	1.21	Cylinder valve broke.
09-09-53	K-1401	UF_6	5,521	0.71	Plugged line caused cylinder rupture.
09-13-53	Vault 16A	Solution	14,156	0.67	Corroded container leaked.
09-30-53	K-402-8	UF_6	29,730	0.88	Cold trap heated up and vaporized UF_6.
10-01-53	Vault 15A	Solution	3,288	0.67	Corroded drums leaked.
10-01-53	Vault 16A	Solution	7,339	0.84	Corroded drums leaked.
10-30-53	K-1131	UF_6	15,335	0.67	Cold trap warmed up vaporizing UF_6.
12-19-53	K-1131	UF_6	3,067	0.71	Burned gasket on pigtail.
12-22-53	K-1131	UF_6	2,147	0.71	Over pressure in F_2 scrubber.
12-29-53	K-101	UF_6	3,067	21.62	Broken sight glass.
2-12-54	K-131	UF_6	1,534	1.83	Pressure control valve ruptured.
3-8-54	Vault 15	Solution	3,149	0.67	Leak from corroded storage drums.
3-31-54	Vault 16A	Solution	22,047	0.83	Corroded containers leaked.
4-5-54	K-131	Solution	55,987	0.75	Corroded drum leaked.
4-18-54	K-1301	Solution	1,198	0.92	Corroded drum leaked.
6-15-54	K-1401	UF_6	1,000	0.71	Ruptured cylinder.

NA=NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY % U-235	CAUSE
6-23-54	K-633	UF_6	15,333	0.66	Pigtail broke on feed cylinder.
6-54	K-633	UF_6	15,336	0.67	Leaked from valve when removed from system.
8-30-54	K-631	UF_6	3,067	0.71	Seal change-out on Beach-Russ pump, leak from oil system.
10-10-54	K-1004L	UF_6	3,067	0.65	Defective seal in pilot plant leaked.
12-22-54	K-413	UF_6	3,067	1.30	Leaked from Beach-Russ pump.
3-10-55	K-33	UF_6	144,815	0.71	Cylinder and pigtail explosion and rupture.
3-16-55	K-631	UF_6	3,012	0.50	Seal failure on Elliott compressor.
4-19-55	K-633	UF_6	15,333	Depleted	Copper feed line ruptured.
9-12-55	K-1420	Solution	2,756	0.44	Piped to holding pond in error.
10-30-55	K-33	UF_6	1,840	PPF	Cylinder valve leak.
11-8-55	K-1131	UF_6	3,067	0.65	Plugged line caused pressure blow back to tower.
11-20-55	Vault 16	Solution	1,555	3.47	Corroded drum leaked.
12-14-55	Vault 16	Solution	9,117	0.69	Corroded drum leaked.
12-26-55	K-413	UF_6	2,147	1.44	Cylinder valve leak.
1-15-56	Vault 15A	Acid Sol.	36,642	Depleted	Corroded drum leaked.
1-20-56	K-33 Feed Rm	UF_6	1,533	0.71	Leak at valve threads on feed cylinder.
3-19-56	K-33	UF_6	1,208	1.49	NA.
4-4-56	Vault 15A	Solution	1,734	0.88	Corroded drum leaked.

NA=NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	GRAMS WT. % U-235	CAUSE
4-9-56	Vault 15A	Solution	2,571	0.86	Corroded drum leaked.
4-9-56	Vault 16A	Solution	4,886	2.87	Corroded drums leaked.
4-9-56	Vault 16A	Solution	1,897	1.74	Corroded drums leaked.
4-9-56	Vault 16A	Solution	11,583	2.61	Corroded drums leaked.
5-6-56	K-633	UF_6	1,934	0.33	Blown gasket in test loop.
5-31-56	Vault 15A	Solution	1,286	0.86	Corroded drums leaked.
6-13-56	K 303	UF_6	1,534	0.33	NA.
8-31-56	K-1131	UF_6	30,672	0.67	Gasket on UF_6 pump failed.
9-09-56	K-1004L	UF_6	3,066	0.71	Cylinder connection failed.
9-20-56	K-601	UF_6	4,673	0.71	Rupture disk blown out.
12-56	Vaults 15, 16, 7A	Solution	40,752	1.65	Corroded drums leaked.
1-7-57	K-1131	UF_6	1,840	0.67	Powder seal lost in process.
2-22-57	K-1131	UF_6	1,534	0.65	Faulty cylinder valve.
2-57	Vault 15A	Solution	39,682	NA	Leak from corroded drums.
10-10-57	K-413	UF_6	3,041	1.51	Copper tube burned from a reaction in oil mist filter.
1-12-58	K-33 Feed	UF_6	4,600	0.71	Faulty pigtail connection.
1-58	Vault	UF_6	3,041	NA	Hole burned in mist filter.
1-25-58	K-631	UF_6	4,600	0.39	Valve bellows rupture.

NA NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY WT. % U-235	CAUSE
2-9-58	K-631	UF_6	1,533	Depleted	Faulty pigtail connection.
3-20-58	K-33	UF_6	22,080	0.71	Cylinder valve failure.
4-58	Vault	UF_6	4,601	0.65	Valve bellows rupture.
9-2-58	K-1004L	UF_6	7,666	0.71	Seal failure, pilot plant.
9-11-58	K-1004A	UF_6	1,043	0.71	Faulty cylinder connection.
9-58	Development	UF_6	7,666	0.65	Leak from pilot plant.
9-58	K-1131	UF_6	374,212	0.71	Loss in transferring material.
9-58	K-1131	UF_6	799,679	0.71	Ruptured filter in hydrogen reduction system.
2-27-59	K-1420	Acid Solution	2,819	0.67	Corroded base caused pump flange failure.
4-3-59	K-304-2	Solution	6,400	NA	Drain line leak.
6-15-59	K-1059	NA	2,105	0.62	NA
2-24-60	K-1131	UF_6	214,960	0.71	Ruptured coil in E cold trap.
2-27-60	K-1131	UF_6	460,008	0.69	Ruptured tube in cold trap.
2-29-60	K-631	UF_6	38,894	0.71	Cylinder valve leaked.
5-7-60	K-1131	UF_6	184,003	0.65	Ruptured tube in F cold trap.
6-9-60	K-1420	UF_6	4,453	1.50	Drain line leak.
1-2-61	K-631	UF_6	1,533	Tails	Pigtail connection bad.
4-13-61	K-1131	UF_6	3,067	0.71	NA
5-10-61	K-1004A	UF_6	1,860	0.71	Valve bonnet broke off sample bottle.

NA=NOT AVAILABLE

DATE	PLANT LOCATION	MATERIAL TYPE	URAN. GRAMS	ASSAY WT. % U-235	CAUSE
5-13-61	K-1131	UF_6	92,000	Depleted	Secondary cold trap tube rupture.
5-19-61	K-1131	UF_6	6,100	Depleted	Secondary cold trap bypassed intermittently in trying to remove plug from process line; allowed release to vent stack.
6-3-61	K-33 Feed Rm	UF_6	1,840	0.71	Purged valve left open in error.
7-26-61	K-1131	UF_6	6,133	Depleted	Cracked pigtail.
9-29-61	K-1131	UF_6	1,533	0.71	Jet assembly burnt out on reactor.
11-13-61	K-1413	UF_6	193,200	Normal	Cylinder valve packing gland failed.
3-2-62	K-1413	UF_6		0.22	One-half inch process line ruptured.
3-1-62	K-1413	UF_6	19,933	Depleted	Ruptured copper tubing.
3-16-62	K-1420	UF_6	6,078	40.97	Cold trap valve failure.
3-2-64	K-1131	UF_6	3,067	0.36	Bad gasket on pigtail connection.
7-64	Vault	Solution	20,743	Enriched	NA
11-23-65	K-631	UF_6	4,600	Tails	Bellows rupture on transmitter.
8-67	K-1025	UF_6	1,239	72.00	Leaking cylinder in storage.
1-68	NA	NA	1,589	0.25	Tails rupture test.
5-5-69	K-1423	UF_6	6,746	0.71	Valve seat on cylinder leaked.
5-24-70	K-33 Feed Rm	UF_6	4,600	1.49	Control valve bellows in feed header cracked.
9-26-70	K-413	UF_6	1,533	NA	Drain line leakage.
12-16-70	K-1131	UF_6	153,314	0.71	Probable pigtail leak. Material contained in autoclave drained to Popular Creek.

NA=NOT AVAILABLE

Date	Plant Location	Material Type	Uran. Grams	Assay Wt. % U-235	Cause
4-26-71	K-1401	UF_6	11,040	0.71	Copper Pigtail ruptured.
8-24-71	K-311-1	UF_6	7,663	3.40	Casing of Cell 5--1B pump ruptured.
11-25-73	K-633	UF_6	3,066	0.33	Block valve leak to air ejector.
7-16-73	K-1004A	UF_6	3,600	0.71	Ruptured valve on sample cylinder.
9-17-75	K-1423	UF_6	5,519	3.25	Cracked valve and cylinder wall (Nukem 8).
3-77	K-413	UF_6	3,070	2.90	Accidental release, pigtail pinch-off incomplete.
5-77	K-33	UF_6	1,533	0.79	Accidental release, leak around pump exhaust gasket.
3-19-78	K-1210	UF_6	4,302	NA	Gasket failure from overheating.
7-28-80	K-1413	UF_6	5,827	0.71	Valving error involving an MD cylinder.
12-01-80	K-1302	UF_6	1,533	3.18	Stack release caused by valving error.
5-27-81	K-29	UF_6	2,000	3.2	Release from cell following high temperature reaction.

NA=NOT AVAILABLE

K-31	1-6-81	1845	Box Shelf 1/81 → Sept 81
K-31	2-27-81		Section B5
	3-25-81	310 pm	Drawer 7
			Box 39
K33	2-11-81	1030 AM	
K1423	10-15-81	9:30 AM	
K1302	11-11-82	900 AM	
K633	11-10-82	1215 A	

UCN-3889A
(125 11-62) DATA SHEET