2518 452

Attachment 1

ChemRisk Document No. 2518

APRIL 17, 1973

TO - FILES

MATERIAL RELEASES AND
MEASURED LOSSES FROM
7-1-52 TO 7-1-72

ATTACHED IS A SUMMARY OF MATERIAL RELEASES AND MEASURED LOSSES WHICH OCCURRED BETWEEN JULY 1, 1952 AND JULY 1, 1972. THE URANIUM INVOLVED IN EACH ITEM REPORTED IN TABLE I IS IN KILOGRAMS. SIMILAR INFORMATION SHOWN IN TABLE II IS IN GRAMS.

M. B. Fortune

TABLE I

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
9-14-52	2	C-400	0.15	Overloaded Alumina Trap
9-17-52	1	C-400	0.15	Plugged Line on Beach Rust Pump
10-10-52	3	C-331	0.02	UF_6 in Charge Connection of Cell
11- 6-52	4	C-331	0.46	Open Purge Valve
11- 7-52	5	C-315	1.53	Defective Seal on Seal Exhaust F
11- 8-52	6	C-315	1.53	B. O. P. Deactuated
12- 1-52	085	C-331	92.32	Foreign Material Lodged in Valve
12-10-52	062	C-400	0.03	Open Valve
1- 8-53	121	C-310	0.61	Seal Failure on Elliott Compres.
1-19-53	102	C-400	0.15	Open Cover on NFL Reservoir
1-22-53	141	C-310	0.61	Leak in Pigtail
1-30-53	027	C-410	29.75	Valve Change — UF_6 Not Solidifi
2- 8-53	028	C-410	3.07	Pigtail Seal was Struck & Broke
2-18-53	261	C-331	0.06	Defective Seal
Feb. 1953	-		59.65	Discharged to Holding Pond
3- 5-53	043	C-410	0.61	Ruptured Pigtail
3- 5-53	142	C-310	0.46	1A Pump Failure
3-12-53	105	C 400	1.23	Defective Valve
March 1953	-	-	17.0-	Discharged to Holding Pond
4- 4-53	107	C-400	5.52	Defective Valve Being Replaced
4-20-53	30	C-410	15.34	Ruptured Valve Packing Gland
4-28-53	109	C-400	0.18	Ruptured Vacuum Cleaner Bag
4-28-53	143	C-310	3.68	Valve Left Open
April 1953	-	-	10.55	Discharged to Holding Pond
5- 2-53	045	C-410	0.46	Defective Valve Seat
5-27-53	046	C-410	1.78	Open Valve
5-27-53	049	C-410	0.92	Defective Block Valve
May 1953		-	24.82	Discharged to Holding Pond
6-18-53	162	C-315	30.67	Ruptured Pigtail
6-29-53	404	C-410	26.99	Broken Valve Nipple on Cylinder
June 1,53	-	-	5.36	Discharged to Holding Pond
7- 1-53	004	C 310	1.52	Seal & Bearing Failure
7-13-53	032	C 410	15.34	Ruptured Pigtail
7-15-53	321	C-315	403.38	Thermocouple Well Rupture
7-24-53	163	C-331	19.94	Open Valve
7-29-53	033	C-310	3.07	Defective Weld Coming on Pump
7-31-53	301	C-331	7.73	Ruptured Cylinder Pigtail
July 1953	-	-	0.06	Discharged to Holding Pond

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
8-12-53	033	C-410	15.34	Defective Valve
8-13-53	445	C-410	0.31	Plugged Fluorination Tower
8-20-53	005	C-310	0.31	Defective Valve
8-21-53	065	C-710	0.14	Defective Flare Connection
8-24-53	054	C-410	0.61	Gasket Failure in Pigtail
8-28-53	036	C-410	0.15	Defective Cylinder Valve
August 1953	-----	-	1.68	Discharged to Holding Pond
9- 8-53	262	C-331	0.15	Valve Insufficiently Purged
9- 9-53	123	C-333	0.31	Seal Failure on Stage 4 Compr
9- 9-53	035	C-410	15.34	Defective Cold Trap
9-14-53	037	C-410	0.15	Ruptured Instrument Line
9-14-53	038	C-410	0.31	Plugged Sample Pigtail
9-15-53	429	C-410	0.92	Seal Failure on 307-A Blower
9-19-53	431	C-410	30.67	Stack Release
9-21-53	264	C-331	0.15	High Pressure in "A" Cold Tra
9-24-53	341	C-331	0.31	Defective Valve
9-30-53	267	C-310	0.001	Leaking Cylinder Valve
Sept. 1953	-	-	7.26	Discharged to Holding Pond
10- 1-53	433	C-410	0.61	Ruptured Valve Bellows
10-24-53	063	C-710	0.38	Drum Liner Failure
10-30-53	343	C-315	0.61	Defective Cylinder Valve
10-31-53	268	C-315	0.02	Excessive Vent-Surge Pressure
10-31-53	434	C-410	1.53	High Pressure in "A" Trap
Oct. 1953	-	-	1.21	Discharged to Holding Pond
11- 2-53	057	C-410	0.31	Plugged Evacuation Line
11- 6-53	1501	C-410	1.53	Leaking Bellows
11- 9-53	144	C-310	0.08	Defective Valve Seat
11- 9-53	269	C-315	0.61	Seal Failure on 2-A Compressor
11- 9-53	1502	C-410	0.92	Leaking Bellows
11-10-53	067	C-710	0.45	Cold Trap Gasket Failure
11-11-53	270	C-331	0.005	Ruptured Pigtail
11-11-53	435	C-410	0.31	Plugged Pigtail
11-18-53	1521	C-410	4.60	Threads Stripped on Pigtail
11-21-53	437	C-410	0.61	Leaking Bellows on Gas Outlet
11-27-53	446	C-315	0.15	Seal Failure on 2-A Pump
11-28-53	447	C-315	0.31	Hole in B. O. P. Purge Line
Nov. 1953	-	-	1.29	Discharged to Holding Pond
12- 5-53	1523	C-410	1.53	Leaking Cylinder Valve
12- 6-53	303	C-315	2.15	Defective Expansion Joint
12-16-53	113	C-400	0.15	Leaking Cylinder Valve
12-18-53	438	C-410	0.31	High Pressure in Cold Trap
12-20-53	059	C-410	0.15	Ruptured Instrument Line
12-23-53	006	C-310	0.71	Seal Failure on Elliott Pump

TABLE I (Cont'd)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Loss Log	Uranium (Kilo Grams)	Reason
12-28-53	364	C-331	0.34	Expansion Joint Broken on P & E
Dec. 1953	-	C-410	160.12	Stack Loss
Dec. 1953	-	-	1.94	Discharged to Holding Pond
1- 8-54	439	C-410	0.07	Plugged Feed Line Opened
1-10-54	440	C-410	0.61	Loose Pigtail Connection
1-19-54	060	C-410	1.53	Broken Pigtail
Jan. 1954	-	C-410	122.92	Stack Loss
Jan. 1954	-	-	1.46	Discharged to Holding Pond
2- 5-54	068	C-710	0.00	Worn Flare Threads on Manifold
2- 9-54	304	C-310	0.01	Seal Failure on No. 3 Elliott
Feb. 1954	-	C-410	147.87	Stack Loss
Feb. 1954	-	-	8.26	Discharged to Holding Pond
3-24-54	1527	C-410	0.01	Plugged Cylinder Valve
Mar. 1954	-	C-410	205.48	Stack Loss
Mar. 1954	-	-	2.29	Discharged to Holding Pond
4- 9-54	0721	C-315	39.87	Sheared Cylinder Valve Stem
4-16-54	0781	C-310	1.53	Defective Neoprene Gaskets
4-23-54	069	C-710	0.03	Plugged Sampling System
Apr. 1954	-	C-410	230.83	Stack Loss
Apr. 1954	-		3.27	Discharged to Holding Pond
5- 5-54	1519	C-410	0.15	Plugged Evacuation Line
5-21-54	0761	C-331	0.31	Leaking Block Valve
May 1954	-	C-410	196.86	Stack Loss
May 1954	-	-	305.51	Discharged to Holding Pond
6-18-54	581	C-315	006.19	Cylinder Valve Stem Sheared
6-27-54	183	C-315	3.91	Broken Cylinder Pigtail
June 1954	-	C-410	177.35	Stack Loss
June 1954	-	-	3.05	Discharged to Holding Pond
7-26-54	164	C-310	3.07	Leaking Control Valve Gasket
July 1954	-	C-410	147.55	Stack Loss
July 1954	-	-	14.48	Discharged to Holding Pond
8- 9-54	040	C-410	1.53	Dismantling of SGTA Cold Trap
8-31-54	1441	C-410	0.15	High Pressure on F_2 Tower
Aug. 1954	-	C-410	177.55	Stack Loss
Aug. 1954	-	-	11.65	Discharged to Holding Pond
9- 7-54	070	C-710	5.65	Hole in Drum Liners
9-29-54	0845	C-337	303.34	Air Jet Valved into Feed Manif
Sept. 1954	-	C-410	117.35	Stack Loss
Sept. 1954	-	-	14.53	Discharged to Holding Pond

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
10- 7-54	464	C-315	0.15	Pigtail Insufficiently Purged
10-15-54	1444	C-410	0.31	High Pressure in F_2 Tower
10-17-54	1424	C-410	1.53	Plugged Manifold
Oct. 1954	-	C-410	214.00	Stack Loss
Oct. 1954	-	-	5.34	Discharged to Holding Pond
11-18-54	1425	C-410	0.08	Plugged Manifold
Nov. 1954	-	C-400	42.64	U-Metal Pickling Loss
Nov. 1954	-	C-410	224.98	Stack Loss
Nov. 1954	-	-	5.15	Discharged to Holding Pond
12-15-54	0742	C-310	7.67	Elliott Pump Seal Failure
12-23-54	1428	C-410	7.67	Cold Trap Failure
12-24-54	1427	C-410	15.34	Leaking Cold Trap Outlet Valv.
12-27-54	1430	C-410	1.53	Plugged Cold Trap
12-30-54	1426	C-410	0.15	Defective Valves in Evac. Syst
Dec. 1954	-	C-400	13.79	U-Metal Pickling Loss
Dec. 1954	-	-	33.70	Discharged to Holding Pond
1- 9-55	1431	C-410	0.15	Ruptured Bellows in "B" Tower
1-19-55	1433	C-410	0.61	Open Cold Trap Valve
Jan. 1955	-	C-400	334.07	U-Metal Pickling Loss
Jan. 1955	-	C-410	255.82	Stack Loss
Jan. 1955	-	-	19.54	Discharged to Holding Pond
2-10-55	0701	C-315	0.61	Stripped Threads on Sample Con nection
2-15-55	1434	C-410	0.61	High Pressure in F_2 Tower
Feb. 1955	-	C-400	373.30	U-Metal Pickling Loss
Feb. 1955	-	C-410	261.72	Stack Loss
Feb. 1955	-	-	45.88	Discharged to Holding Pond
3-15-55	0722	C-315	414.01	Broken Cylinder Pigtail
3-30-55	072	C-710	3.54	Stripped Threads on Cylinder
March 1955	-	C-410	246.11	Stack Loss
March 1955	-	-	16.22	Discharge to Holding Pond
4- 7-55	1435	C-410	1.53	Leaking Outlet Valve on Cold
April 1955	-	C-410	350.17	Stack Loss
April 1955	-	C-400	16.78	U-Metal Pickling Loss
April 1955	-	-	20.44	Discharge to Holding Pond
5- 1-55	184	C-315	0.15	Seal Failure on 2A Pump
5-16-55	1436	C-410	153.34	Leaking Outlet Valve on Cold
May 1955	-	C-410	316.93	Stack Loss
May 1955	-	-	105.35	Discharge to Holding Pond

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
6- 2-55	1401	C-410	7.67	Refrigeration Failure
6-19-55	1463	C-410	92.00	Restriction in Cold Trap Co Lines
6-24-55	1465	C-410	61.33	Leaking Cold Trap Outlet Va
6-24-55	1466	C-410	9.20	High Pressure on Hoppers Se
6-30-55	0604	Hot Salvage Yard	4.40	Experimental Work
June 1955	-	C-410	356.52	Stack Loss
June 1955	-	C-400	2533.72	U-Metal Pickling Loss
June 1955	-	-	484.47	Discharge to Holding Pond
7-13-55	075	Hot Salvage Yard	0.68	Experimental Work
7-31-55	1467	C-410	0.61	Ruptured Tower Screw Packin
July 1955	-	C-410	334.75	Stack Loss
July 1955	-	-	418.56	Discharge to Holding Pond
August 1955	-	C-400	1288.42	Exhaust of Spray Booth Fum
August 1955	-	C-410	347.00	Stack Loss
August 1955	-	-	101.47	Discharge to Holding Pond
9-20-55	-	C-710	2.21	Error in Tare Wt. of "B" C
Sept. 1955	-	C-410	363.60	Stack Loss
Sept. 1955	-	-	66.97	Discharge to Holding Pond
10- 6-55	1469	C-410	1.53	Drilled into Feed Line
Oct. 1955	-	C-410	274.42	Stack Loss
Oct. 1955	-	-	34.54	Discharged to Holding Pon
11-15-55	0744	C-310	0.31	Broken Instrument Line
11-22-55	1403	C-410	0.31	Hole Burned in CX Tower
11-28-55	307	C-315	15.33	Broken Pigtail
11-29-55	0605	C-710	1.97	Failure of UO_3 Reactor Fil
Nov. 1955	-	C-410	211.85	Stack Loss
Nov. 1955	-	-	40.47	Discharge to Holding Pond
12-21-55	1471	C-410	18.38	Ruptured Weld on UK Cylin
12-23-55	1473	C-410	1.53	Plugged Feed Manifold
Dec. 1955	-	C-410	197.77	Stack Loss
Dec. 1955	-	-	41.69	Discharged to Holding Pon
1-19-56	125	C-333	0.38	Opened Uncharged Valving "
1-20-56	323	C-310	1.53	Expansion Joint Ruptured
1-20-56	405	C-710	0.70	Leaking Drum Containing L
Jan. 1956	117	C-754	201.4[illegible]	Smoking Ash Receiver
Jan. 1956	-	C-410	192.32	Stack Loss
Jan. 1956	-	-	50.82	Discharged to Holding Pon

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
2-29-56	120	C-745B	5.52	Broken Cylinder Valve
Feb. 1956	-	C-410	195.55	Stack Loss
Feb. 1956	111	C-745A	497.68	Smoking Ash Receivers
Feb. 1956	-	-	21.72	Discharge to Holding Pond
3- 7-56	1404	C-410	1.53	Faulty Weld in Cold Trap Line
3-10-56	325	C-315	65.46	Broken Cylinder Pigtail
Mar. 1956	-	C-410	234.96	Stack Loss
Mar. 1956	452	C-745A	251.84	Smoking Ash Receivers
Mar. 1956	-	-	39.64	Discharge to Holding Pond
Apr. 1956	-	C-410	250.38	Stack Loss
Apr. 1956	453	C-745A	155.18	Smoking Ash Receivers
Apr. 1956	456	C-400	442.53	Vent of UF_6 Scrubber Exhaust
Apr. 1956	455	C-745B	64.32	Leaking Drum Containing Lab.
Apr. 1956	-	-	47.27	Discharge to Holding Pond
5-18-56	459	C-745B	210.77	Leaking Drums Containing Lab Waste
5-23-56	1477	C-410	46.01	Cold Trap Outlet Valve Left
May 1956	-	C-410	252.65	Stack Loss
May 1956	458	C-745A	151.65	Smoking Ash Receivers
May 1956	457	C-400	167.00	Vent of UF_6 Scrubber Exhaust
May 1956	-	-	46.65	Discharge to Holding Pond
6-26-56	1480	C-410	0.31	Plugged Feed Manifold
June 1956	-	C-410	248.11	Stack Loss
June 1956	0803	C-745B	86.27	Leaking Drums Containing Lab Waste
June 1956	-	-	36.43	Discharge to Holding Pond
7- 1-56	1445	C-410	3.07	Threads Stripped on Manifold Connection
July 1956	-	C-410	244.94	Stack Loss
July 1956	0802	C-745A	181.47	Smoking Ash Receivers
July 1956	-	-	60.26	Discharge to Holding Pond
8-21-56	1447	C-410	7.67	Ruptured Weld on UK Cylinder
Aug. 1956	-	C-410	204.12	Stack Loss
Aug. 1956	-	-	56.81	Discharge to Holding Pond
Sept. 1956	-	C-410	265.08	Stack Loss
Sept. 1956	-	-	65.01	Discharge to Holding Pond
10-20-56	465	C-333	0.61	Leaking Feed Valve
10-23-56	1446	C-410	0.23	Leaking Cold Trap Inlet Valve

*Calculated from samples taken when material was repackaged.

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
Oct. 1956	-	C-410	254.01	Stack Loss
Oct. 1956	0804	C-745A	159.04	Smoking Ash Receivers
Oct. 1956	-	-	69.13	Discharged to Holding Pond
11-11-56	0626	C-315	0.61	Leaking Valves on Elliott Pu
11-12-56	1449	C-410	0.46	Defective Block Valve
11-17-56	129	C-333	0.61	P. I. Removed from Pressured
11-19-56	130	C-333	0.61	Leaking Feed Valve
11-23-56	406	C-710	1.25	Harshaw Bomb Valve Failure
Nov. 1956	-	C-410	304.61	Stack Loss
Nov. 1956	-	-	57.69	Discharged to Holding Pond
Dec. 1956	-	C-410	264.90	Stack Loss
Dec. 1956	0806	C-745A	151.57	Smoking Ash Receivers
Dec. 1956	-	-	58.83	Discharged to Holding Pond
1-24-57	1451	C-410	1.23	Leaking Cylinder Valve
1-30-57	1452	C-410	1.53	Ruptured Bellows
Jan. 1957	-	C-410	271.70	Stack Loss
Jan. 1957	-	-	62.34	Discharged to Holding Pond
Feb. 1957	-	C-410	189.15	Stack Loss
Feb. 1957	-	-	75.97	Discharged to Holding Pond
3-10-57	467	C-333	3.07	Ruptured Cylinder
3-10-57	1453	C-410	0.31	Loose Pigtail
5-19-57	1505	C-410	3.07	Plugged Pigtail
6- 9-57	408	C-710	12.94	Ruptured "B" Cylinder
8-18-57	326	C-341	0.61	Ruptured Instrument Line
8-20-57	0807	C-400	37.52	Ruptured Valve
11-21-57	0809	C-410	5.51	Pump Failure
Nov. 1957	-	C-400	75.00	Drum Dryer Exhaust Gases
Feb. 1958	-	C-400	22.00	Drum Dryer Exhaust Gases
3- 5-58	1457	C-410	1.53	Leaking End Plug on Cylinder
Mar. 1958	-	C-400	26.00	Drum Dryer Exhaust Gases
Apr. 1958	-	C-400	24.00	Drum Dryer Exhaust Gases
5-20-58	0823	C-400	171.32	Released During Valve Chang
May 1958	-	C-400	24.00	Drum Dryer Exhaust Gases

TABLE I (Con't)

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report No.	Location	Uranium (Kilograms)	Reason
June 1958	-	C-400	24.00	Drum Dryer Exhaust Gases
7-14-58	1406	C-410	10.61	Leaking End Plug on Cylinder
8-17-58	1510	C-410	30.67	Reaction in UF_6 Absorber
10- 1-58	1409	C-410	163.43	End Plug of Cylinder Failed
3-19-59	332	C-315	44.77	Broken Pigtail

TABLE II

MATERIAL RELEASES AND MEASURED LOSSES

Date of Occurrence	Material Release Report Number	Location	Uranium (Grams)	Reason
9-11-59	0984	C-410	89,450	Cap came off UF_6 manifold.
9-14-59*	0824	C-745-B	7,406	Leakage from corroded drums.
9-14-59*	0824	C-745-B	3,623	Leakage from corroded drums.
9-14-59*	0824	C-745-B	4,471	Leakage from corroded drums.
9-14-59*	0824	C-745-B	3,096	Leakage from corroded drums.
12-2-59	0133	C-333	9,200	Leaking feed valve.
5-16-60	0826	C-400	8,895	Damaged cylinder valve.
10-7-60	0971	C-410	5,000	Ruptured Bellows - C Tower.
10-22-60	0463	C-333	1,533	Compressor Seal Failure.
11-17-60	0470	C-333	3,076,852	Ruptured Cylinder.
11-22-60	0411	C-710(LA3)	947	Ruptured Valve Diaphragm.
6-6-61	0818	C-400	30,280	Inadvertent Draining of Solution to Diversion Ditch.
4-23-62	0828	C-400	533,434	Drain valve left open when transferring material from filtrate tank to feed storage tanks.
7-10-62 to 7-13-62	0975	C-420	34,019	UF_6 vented to atmosphere while the fluid bed absorber unit was bypassed to modify the ash return conveying system.
9-21-62	0978	C-420	56,917	Faulty seat on UO_3 charge station powder valve.
12-13-62	0645	C-337	1,533,565	Explosion and fire in C-337-3-1.
5-2-63	0242	C-310	920	Solids in cylinder valve caused UF_6 release when pigtail was disconnected.

* Although reported on the indicated date, this material was lost over an indeterminate

TABLE II

ACCIDENTAL LOSSES

Date of Occurrence	Material Release Report Number	Location	Uranium (Grams)	Reason
7-8-63	1042	C-337-A	613	Deposit of UF_6 frozen out in cylinder valve broke loose and was accidentall released when pigtail was disconnected.
4-21-65	1822	C-337-2.4	613	Residual UF_6 in line caused release when A-outlet block valve was removed.
3-17-66	309	C-315	8,281	Cylinder dropped while loadi causing rupture and subseque release of UF_6.
9-15-67	1761	C-400	34	Leaking compressor flange.
10-19-67	1762	C-400	169	UF_6 trapped between compressor stator and shell, and in the compressor flange.
11-6-67	1764	C-337	203	Solidified UF_6 in tie-line vaporized and released while line was being prepared for tie-in of charging connection.
12-2-67	1702	C-315	613	Ruptured bellows on compressor discharge valve.
5-8-68	1704	C-310	135	Over-purge from C-310 stack.
8-25-68	1765	C-335	7,361	Seat leakage through the TL-TOL valve.
10-4-68	1769	C-337	100	Loose coupling on C-337-4.9 line recorder jet.
10-24-68	1768	C-337	20	Low seal feed pressure on C-337-4.9B seal feed 1:1 re
11-11-68	0905	C-410	613	Manifold cap removed from unevacuated Modine drain header.
1-1-70	1772	C-337	4	Low seal feed pressure on stage 4B compressor.
1-28-70	1773	C-337	7.	Seal failure on stage 6 temperature rake.
1-31-71	1779	C-337-A	14,720	Pigtail ruptured during sampling of tail cylinder