

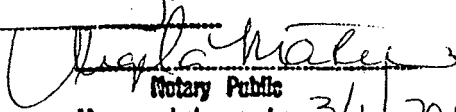
THE ATTACHED DOCUMENT WAS COMPILED, BY
ROCKY FLATS INDUSTRIAL SAFETY ENGINEER,
, FOR ME, BUILDING 771
OPERATIONS MANAGER. THE DOCUMENT IS ONE
THAT IDENTIFIES ACCIDENTS AND INCIDENTS THAT
HAPPENED BETWEEN 1955 AND 1988 IN BUILDING 771.
THE PURPOSE WAS TO EDUCATE THE BUILDING 771
PERSONNEL TO THE POTENTIAL ISSUES THAT CAUSED
EITHER RADIATION EXPOSURE/CONTAMINATION OR INJURY
TO THE PEOPLE AND THE BUILDING ENVIRONMENT.

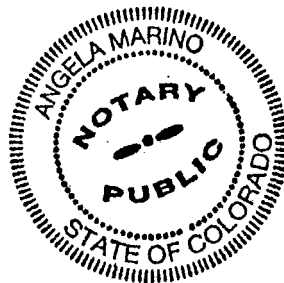
THE SECOND ATTACHMENT IS A LIST OF MAJOR
CHEMICALS USED IN BUILDING 771, THAT PERSONNEL CAME
IN CONTACT WITH.

Feb 17, 2012

BUILDING 771 OPERATIONS MANAGER
1985 - 1988

State of Colorado
County of Boulder
Subscribed and sworn to (or affirmed) before me
this 17th day of February, 2012
by: _____


Notary Public
My commission expires 3/1/2015



(Seal)

Appendix 1
Chronology of Incidents Reported for Building 771

9/30/55	182	Fire resulted from metal briquette spontaneously igniting. Radioactive material became unconfined and contaminated area. \$9500 loss.
6/14/57	146	A peroxide tank chemical explosion occurred showering employees with glass or metal fragments and contaminated solution. Employee suffered a minor laceration of right temple and lacerated tip of the little finger of right hand. \$30,936 loss.
9/11/57	180	Fire and contamination of all B771. Burning plastic released hydrogen which resulted in an explosion in the building exhaust ducts and fire in the main plenum. \$818,000 loss. Report attached.
6/9/58	159	Electrical fire.
6/20/58	147	Electrical fire.
7/7/58	149	Rag fire inside skull box.
7/21/58	146	Metal fire inside K-4 furnace.
1/6/59	149	Combustible material ignition.
1/24/59	148	Metal fire.
2/24/59	149	Chip fire.
2/26/59	152	Flammable liquid ignition.
5/26/59	148	Electrical fire.
9/8/59	247	Catalytic decomposition of 50% peroxide in an insulated storage tank. Catalyst in the form of neoprene gasket material probably introduced through faulty valve of piping. \$1500 loss.
10/1/59	148	Spark inside skull box ignited paint.
10/16/59	156	Chip fire.
8/22/60	180	Hot metal caused ignition of filter.
10/31/60	180	Pu ignition.
12/21/60	148	Overheated hot plate caused ignition of material.
1/19/61	149	Sparks ignited rags.

3/14/61	166	Alcohol ignition.
9/6/61	166	Ignition of filings.
10/25/61	771	Boiler exploded while it was being lit off.
12/15/61	147	Electrical fire in transformer.
5/16/62	180	Chip and oil fire.
5/18/62	166	Acetone ignition outside box.
5/29/62	148	Metal explosion in furnace.
6/5/62	148	Gasket failure (explosion) in K-furnace.
9/7/62	149	Chip fire—ignition caused by welders.
9/19/62	Hallway	Spontaneous combustion rubber gloves and nitric acid.
10/8/62	149	Chip fire.
11/10/62	148	Electrical—transformer to lathe on fire.
12/4/62	204	Combustible trash being burned in incinerator caused ignition of plenum.
12/7/62	146	Fire was caused due to inadequate seal between the furnace top plate and the reduction vessel. The inadequate seal resulted when a gasket from a previous reduction stuck in the furnace causing second gasket to cook during the vessel insertion into the furnace. \$250 loss.
1/10/63	146	Fire and contamination happened when the gasket on the reduction vessel failed causing molten metal to be ejected from it, and pressurized the glovebox line and failure of the gloves. \$691 loss.
1/18/63	148	K-2 reduction furnace. Fire and contamination happened when gasket failed. Failure caused molten metal to be ejected from the furnace and pressurized the glovebox line failing some of the gloves. \$691 loss.
1/18/63	148	Paint ignited—caused by welders.
1/24/63	148	Oil fire in K-furnace.
1/24/63	148	Gasket failure in K-furnace. \$441 loss.
2/11/63	148	Gasket failure in K-furnace. \$715 loss.

2/18/63	148	Plastic fell off dryer into trough dissolver, causing it to ignite.
3/1/63	180	Chip fire.
3/25/63	149	Metal fire in skull box.
3/27/63	114	Lighting ballast on fire.
4/23/63	181	Contaminated nitric acid spill. \$5662 loss.
5/17/63	148	Gasket failure in K-furnace. Failure caused damage to furnace heating coil and block valve. No fire or contamination. \$1081 loss.
6/20/63	147	Pin hole leak in stainless steel line over false ceiling, line carries high Pu solution. Hole caused by chemical reaction. \$8364 loss.
7/14/63	149	Metal fire.
7/19/63	771	A cracked electrode caused a hole to be burned into the mold well of the furnace flooding the furnace with cooling water. \$330 loss.
9/17/63	149	Rag and glove fire in dissolver box.
9/19/63	188	A hangdown tube from a thermo microbalance fell and broke spreading contamination. Contaminated equipment placed in unsafe storage. \$1500 loss.
10/2/63	180	Employee broke tygon sight tube with portable ladder he was moving. Contamination spread. \$2500 loss.
10/7/63	148	Gasket failure in K-furnace.
10/8/63	146	Fire in K-furnace. No contamination release. \$947 loss.
10/8/63	148	Fire in K-furnace due to gasket failure. No contamination release. \$1038 loss.
11/8/63	148, 149, 165	Cross connection valve between nitric acid supply line and the distilled water system was left open and acid migrated into the distilled water system. \$1131 loss.
11/18/63	148	Gasket failure resulting in fire. No contamination release. \$790 loss.
11/20/63	148	Gasket failure in K-furnace. No contamination spread. \$789 loss.

12/20/63	240	Burning trash in incinerator caused filter plenum to ignite.
12/22/63	Parking Lot	Employee slipped on ice—sprained back.
1/7/64	Hallway	A hole was noticed in a contaminated waste bag and was immediately taped shut. The bag was moved down the hallway to be checked on a counter, thus spreading contamination in the hallway. \$110 loss.
1/21/64	180	Chip fire. Autoignition of metal in an open can. No damage as metal was allowed to burn itself out in a magnesium oxide crucible. No loss.
1/22/64	180, Line 3A	Pu explosion. No damage as the metal was not tightly contained and the explosion blew the fire out. No loss.
1/24/64	R & D Ceramics Lab	When furnace power was increased to 1/2 maximum capacity, the copper electrode holder was consumed by high temperature, releasing a small amount of contaminated cooling water. \$440 loss.
1/28/64	240	Burning of combustibles in incinerator caused filters in plenum to ignite. Complete loss of first stage of filters. \$856 loss.
2/4/64	237	Welder cutting pipe caused paper wipes to ignite. No damage.
2/4/64	240	Ignition of soot accumulation on face of first stage filters in the incinerator filter plenum. Complete loss of first stage of filters. \$??? loss.
2/10/64	159, 160	An attempt to free a plugged vacuum line with water resulted in the release of contaminated water through a pin hole in the line. \$2056 loss.
2/17/64	180	Chip fire. Spontaneous ignition of a small quantity of sodium and Pu granules in a glass beaker. No damage or contamination, fire burned itself out. No loss.
2/19/64	155, 159, 160	Employee carrying a leaking sample carton of Pu fluoride. Contamination spread. \$214 loss.
3/17/64	187	Heat from reaction cracked reactor tube allowing hot Pu hydride to become exposed to air and burn. Contamination spread. \$1071 loss.
4/5/64	166	Two 4-liter bottles of liquid salvage leaked. \$224 loss.
4/11/64	148	Gasket failure K-furnace.

4/20/64	160	Pu chip fire.
4/24/64	149	Sludge of fire in skull box.
4/28/64	149	Fire in "trough" box.
5/5/64	---	Potable water backed up in compressed air lines because valve was left open. Equipment damage. \$308 loss.
6/18/64	149	Fire in sludge box.
6/24/64	Hallway	Partial collapse of false ceiling (8 1/2 x 24 ft section). \$600 loss.
6/25/64	149	Open valve allowed escape of contaminated acid. \$960 loss.
7/3/64	166	Employee dropped sample vial he was carrying when he bumped his arm on glovebox. Contamination spread. \$383 loss.
7/15/64	146	Hydrofluoric acid solution was pumped into ammonia solution storage tanks by mistake as the acid drum label had weathered away. \$386 loss.
8/17/64	153	Chip fire.
9/18/64	157	Electrical short in vacuum pot ignited wiring.
9/19/64	147	Fire in electrical transformer to Ajax converter.
9/25/64	180A	Shipping container holding 5g of Am exploded. No injuries (Time 7:41 a.m.) Contaminated room 180 and 180A. Loss 2.5g Am. Cause unknown. Could be chemical explosion or slow pressure build-up. \$3700 loss.
9/26/64	180A	Explosion inside shipping container.
10/20/64	148	Gasket failure K-furnace.
11/2/64	149	Chip fire in trough box.
11/16/64	149	Small chip fire.
12/17/64	149	Chip fire in graphite box.
12/17/64	148	Electrical arc in K-furnace ignited paper wipes.
1/28/65	149	Sludge ignited.
3/3/65	181	Sludge ignited.

3/5/65	149	Welding sparks from overhead work ignited fresh paint material on floor.
3/18/65	149	Material in "trough" box ignited.
3/25/65	149	Acid feed line valve accidentally opened. Contamination spread. \$272 loss.
4/2/65	165	Electrical failure.
4/8/65	153	Acetone fire.
4/23/65	146	Electrical fault in powerstat ignited insulation.
5/6/65	149	Product feed sprayed out of loose flange on new line. Line not checked after construction. Contamination spread. \$7557 loss.
5/13/65	149	Electrical fault in K-furnace.
6/16/65	153	Cyclohexane explosion in glovebox. Fumes from spill. Cyclohexane ignited by electric motor. \$300 loss.
6/28/65	182	1-1-1-trichloroethane explosion in drybox ignited by burning metal chip during machining operation. \$405 loss.
8/14/65	135	Clothes left in dryer caught fire.
8/15/65	135	Dryer fire in laundry. \$816 loss.
9/16/65	149	Gasket failure on K-furnace.
9/29/65	156	Sweepings and fines ignited.
9/29/65	156	Pu metal filing explosion, filings from coupons and other sweepings were placed in styrene jar and placed on shelf in drybox when material exploded. \$214 loss.
10/05/65	152	Electrical failure ignited insulation and a cooling water line.
10/22/65	149	Combustible waste outside incinerator ignited.
10/23/65	180	Ignition occurred while mixing materials.
11/9/65	180	Maintenance was preparing a drybox line for removal. Technician was using part of box to complete work. Paint with 50% acetone was being used for stripping and masking of paint and contamination. Guillotine door in drybox line

between paint area and manufacturing test muffle furnace was not completely closed. As painter put second container of paint in air lock, a flash of fire met him. \$23,253 loss.

11/25/65	149	K-furnace failure ignited rubber hose.
12/13/65	181	Chips in carton ignited.
12/21/65	152	Electrical failure in furnace.
12/28/65	114	Storage vessel ruptured material ignited.
12/28/65	181	Container on hot plate boiled dry and ignited material.
1/3/66	181	Welding ignited spray paint from aerosol can.
1/11/66	152	Ignition of combustible material near furnace.
2/18/66	248	Ignition of combustible waste material in barrel.
3/11/66	114	Welding spark ignited 8" x 8" intake filter. \$3054 loss.
4/12/66	249	Sparks from incinerator ignited material on filters. Soot on the face of both 1st and 2nd stages provided fuel. \$764 loss.
4/28/66	149	Welding spark ignited combustible waste in room.
5/6/66	153	Plastic oxygen supply hose to Pu burning experiment ignited.
6/15/66	148	Electrical coil failure on K-furnace.
6/20/66	148	Gasket failure on K-furnace.
6/28/66	149	Material being crushed ignited.
7/10/66	149	Combustibles in waste drum ignited by nitric acid.
7/21/66	249	Spark from incinerator ignited material on filters. Four filters were burned. \$275 loss.
8/8/66	148	Gasket failure on K-furnace.
8/18/66	149	Heat from incinerator ignited oily waste at bottom of box.
8/29/66	249	Sparks from waste incinerator ignited material on filters.
9/1/66	181	Material on dryer belt in calciner ignited.

9/11/66	281	Automatic sprinkler valve opened, flooding plenum with 6" of water. Fire department was flushing hydrants and told utility operators to disregard alarms. \$880 loss.
9/13/66	249	Sparks from waste incinerator ignited material on filters.
10/12/66	249	Sparks from waste incinerator ignited material on filters.
10/18/66	249	Sparks from waste incinerator ignited material on filters.
10/24/66	149	Natural gas explosion occurred in waste incinerator, blowing off bags and causing a window fracture. \$4630 loss.
12/12/66	114	Hot plate ignited plastic hose.
1/6/67	154	Burned out ballast in light fixture.
1/18/67	249	Glovebox combustible waste incinerator overheated, igniting filters in plenum.
2/7/67	149	Pu ignition while being run through recover process.
2/20/67	159	Spontaneous combustion of nitric acid and Kim-wipes.
3/6/67	114	Spontaneous combustion of nitric acid and rubber gloves inside glovebox.
5/8/67	249	Glovebox combustible trash incinerator overheated, igniting filters in plenum.
5/8/67	149	Pressurization of glovebox caused contamination. Filters were being removed in the incinerator plenum. \$2000 loss.
5/12/67	148	Ruptured gasket in K-2 furnace.
6/2/67	181	Spontaneous combustion of incinerator ash while being reprocessed.
6/7/67	148	Ruptured gasket in K-2 furnace, causing ignition of drybox glove.
6/21/67	114	Ignition of two small filters inside dissolver pot.
7/14/67	249	Glovebox—combustible waste incinerator overheated, causing ignition of filters in plenum. \$732 loss.

7/17/67	249	Glovebox—combustible waste incinerator overheated, causing ignition of filters in plenum. \$457 loss.
7/18/67	249	Glovebox—combustible waste incinerator overheated, causing ignition of filters in plenum. \$252 loss.
7/25/67	182	Ignition of chips inside lathe box.
8/10/67	114	Ignition of Pu while going through recovery operation.
8/11/67	149	Electrical cord on portable vacuum cleaner shorted and ignited in a glovebox.
8/11/67	149	Overheated waste incinerator caused insulation on exhaust duct to ignite in glovebox.
8/21/67	249	Glovebox—combustible waste incinerator overheated, causing ignition of filters in plenum.
9/15/67	182	External radiation exposures-Type B. Foundry operations involved with the ZPPR project. ✓
10/11/67	249	Glovebox—combustible waste incinerator overheated, causing ignition of filters in plenum.
10/12/67	153	Employee picked up small container of Pu and bottom of container fell out. Pu ignited.
12/7/67	114	Pu ignition inside metal container.
1/9/68	149	Material inside of scrap pipe ignited.
1/15/68	114	Filter being dried ignited.
2/13/68	114	Filter being leached became dry and ignited.
2/21/68	114	Sparks from welding ignited filter in glovebox.
3/26/68	114	Welding sparks ignited filter in glovebox.
4/3/68	114	Material in leaching operation became dry and ignited.
4/3/68	180A	Accumulation of acetylene from welding ignited. \$898 loss.
4/19/68	East Dock	55 gal drum of hydrogen peroxide punctured. No injuries. No environmental problems.
4/20/68	148	Hot material ignited small brush.

4/20/68	148	Gasket failed on K-furnace. \$565 loss.
5/4/68	114	Filter ignition from welding operation.
6/6/68	114	Ignition of Pu and turnings.
6/10/68	114	Heater left on caused filters to ignite.
6/19/68	249	An employee in supplied air changing filter in booster III suffered heat exhaustion.
6/25/68	281	The hose on a full face respirator came off while the employee was in the main plenum. No inhalation exposure.
7/17/68	114, Line 2	Pu ignition while going through leaching operation. \$150 loss.
8/23/68	114	Possible explosion inside dissolving pot.
9/15/68	148	Gasket failure in K-2 furnace. \$875 loss.
10/1/68	179	Ignition of tank valve around Presto-lite torch.
10/14/68	114	Spontaneous combustion between nitric acid and combustible waste.
10/14/68	114	Skull ignition.
10/28/68	148	Small fire in K-2 furnace.
11/6/68	148	Gasket failure in K-2 failure. Chemical explosion caused over-pressurization of K-furnace due to chemical reaction of lab waste mistakenly added to process controlled metal for reduction. \$1790 loss.
11/12/68	114, Line 2	Pu ignition. No contamination spread. \$125 loss.
11/14/68	180D	Ignition of plastic funnel.
11/15/68	149	Pu ignition in glovebox.
11/19/68	181	Ignition of electrical wiring due to welding operation.
11/26/68	114	Spontaneous combustion of nitric acid and combustible waste.
12/16/68	114	Skull ignition.
1/28/69	114	Pu ignition while leaching operation was in process.
1/28/69	180C	A spark ignited 50-50 mixture of methanol and carbon tetrachloride.

2/7/69	114	Spontaneous combustion between leaded gloves and acid inside paper boxes.
2/17/69	149	Door to fire box stuck in the open position, causing rubber gloves to ignite.
3/28/69	114	Pu ignition inside container.
4/10/69	148	Gasket failure in K-2 furnace resulted in ignition of glovebox gloves. Contamination spread. \$3443 loss.
5/11/69	Tunnel	Major fire in B776. Started in glovebox system. All of B776 and B777 contaminated. Some radioactive material released to the environment. Smoke drawn into tunnel by B771 ventilation system. (CD69-6251/6252/6253/6254/6255/6256/7051/and CD71-3740) \$42,000,000 loss.
5/19/69	149	Filters in glovebox housing incinerator plugged up, causing accumulation of heat, which ignited glove. \$1970 loss.
6/25/69	149	Ignition of filter while going through leaching operation.
7/10/69	148	Gasket failure in K-2 furnace resulted in Pu ignition.
7/11/69	148	Gasket failure in K-furnace. \$370 loss.
7/30/69	Tunnel	Ignition of Pu in storage container. Contamination spread. \$20,000 loss.
8/14/69	148	Gasket failure in K-2 furnace resulted in ignition of Pu.
8/21/69	114	Ignition of Pu during sorting operation.
8/27/69	182	Ignition of Pu chips inside storage container.
9/6/69	114	Operator opened wrong fill valve. Contamination spread. \$3180 loss.
9/8/69	114	Chemical reaction inside Nash pump box.
9/9/69	148	Gasket failure in K-furnace.
10/3/69	Tunnel	The H&V operator replacing a valve in the pneumatic control system. The system has an interlock designed to shut off the supply fans when the exhaust fans stop. To replace the relief valve, it was necessary to shut off air to the control system. It caused the exhaust inlet damper to open-all the way, causing a

greater negative pressure in 771 tunnel than 776 exhaust system for the tunnel, pulled contamination out of the ducts. \$2688 loss.

10/8/69	148	Gasket failure in K-2 furnace.
10/21/69	148	Gasket failure in K-2 furnace.
10/23/69	182	Leak in hold caused Pu to fall on furnace floor.
10/25/69	148	Gasket failure in K-2 furnace.
10/25/69	148	Gasket failure in K-2 furnace.
11/7/69	Tunnel	Workers tried to remove a section of duct without decontaminating it first. \$2488 loss.
11/14/69	114	Pu ignition during dissolving operation.
11/14/69	148	Gasket failure in K-2 furnace.
11/16/69	148, Line 16	Gasket failure in K-2 furnace. Contamination spread. \$763 loss.
11/16/69	114, Line 3	Line 3 pressurized due to a rapid reduction when dissolving Pu turnings in nitric acid. Chemical operators were making a bag cut on the other end of the line. \$1074 loss.
11/16/69	148	Reduction furnace gasket failure damaged block valve and induction coil and released contamination.
11/23/69	114	Pu ignition while going through dissolving process.
11/23/69	114	Ignition of filters during leaching operation.
1/6/70	114	Material in dissolver ignited.
1/6/70	114	Rapid reaction when dissolving Pu turnings in nitric acid. Overflow and drain out criticality drain onto floor. \$995 loss.
2/14/70	148	Gasket failure in K-furnace. Contamination spread to room. \$531 loss.
2/18/70	148	Gasket failure in K-furnace.
2/25/70	149	Fire escaped to outside of fire box.
3/5/70	149	Material ignited outside of fire box.
3/12/70	114	Partially opened valve allowed water in process line to overflow out the criticality drain onto the floor. Contamination spread to room. \$641 loss.

4/1/70	149	Fire escaped from fire box into adjacent material in glovebox.
4/13/70	106	Paper jam in xerox machine.
4/15/70	149	Combustible fluid in plastic bottle ignited outside fire box. Burned through bags and released contamination to room. \$820 loss.
4/30/70	148	Gasket failure resulted in loss of one block valve and one induction coil. No contamination spread. \$ 405 loss.
5/5/70	148	Gasket failure resulted in loss of block valve and induction coil. No contamination spread. \$1388 loss.
5/6/70	114	Three nitric acid valves in glovebox were open releasing contamination to room. \$2580 loss.
5/8/70	149	Material outside of fire box ignited.
5/12/70	182A	Sparks from buffing operation ignited a glove. Contamination. \$550 loss.
5/14/70	148	Gasket failure on K-furnace. \$1258 loss.
6/18/70	149	Chemical reaction within waste drum.
6/20/70	114	Material being dried on hot plate ignited.
7/20/70	149	Electrical short in solenoid.
7/23/70	114	Material on hot plate ignited.
10/13/70	114	Pu skull ignited during recovery operation.
10/19/70	149	Fire escaped outside of fire box and ignited feed material.
10/23/70	North Area	Gasoline fire in engine compartment of employee's vehicle.
11/11/70	114	Pu skull ignited in recovery operation.
11/11/70	---	Vacuum line pressurized with 125 psi steam forced contaminated material through wall of vacuum gage collar. This was done to unplug line. Contamination spread. \$1090 loss.
11/14/70	149	Gasket failure in K-furnace.
11/14/70	149	Unburned material in container of fly ash ignited.

11/15/70	148	Gasket failure in K-furnace. \$526 loss.
11/20/70	149	Carton of sludge fell out of fire box.
11/22/70	114	Sludge ignited in recovery operation.
11/24/70	104	Paper jam in Xerox machine.
11/27/70	114	Pot boiled dry and material ignited.
12/2/70	148	Equipment failure. Gasket failure on K furnace. \$550 loss.
12/11/70	149	Bellows on incinerator off gas system deteriorated and broke, releasing contamination. \$3060 loss.
12/16/70	114	Wrong valve type was installed on acid line. Stainless valve was replaced with Monel valve. Contamination spread. \$1640 loss.
12/21/70	114	Pu skull ignited in recovery operation.
12/24/70	283	Gas welding operation ignited oil drippings.
12/26/70	114	Tape and plastic bag ignited by hot plate.
1/22/71	114	Improper seal on dry box window at maintenance change resulted in contamination spread. \$817 loss.
2/2/71	148, Line 32	FulFlo filter being dried ignited. No contamination spread. \$300 loss.
2/18/71	114	Spontaneous ignition of combustibles in waste drum.
2/20/71	114	2 kg Pu material in dissolver pot ignited. No contamination spread. \$155 loss.
3/14/71	114	FulFlo filter being dried ignited.
4/12/71	---	A steam condensate line ruptured, spraying contaminated steam into the room. Cause due to galvanic corrosion of dissimilar metals. Contamination spread. \$5777 loss.
4/19/71	149	Gasket failed on reduction furnace.
4/19/71	148	Abnormal high pressure generated by reduction of dirty fluoride. Contamination spread. \$13,500 loss.
4/22/71	476	Water leaked through roof and shorted out wiring to motor starter for x-ray unit. \$1000 loss.
5/3/71	114	Material in dissolver pot dried and ignited.

5/7/71	149, Line 41	Pin hole leaks at the 304 elbow of the skull line caused airborne contamination. \$3352 loss.
5/22/71	Parking lot	Electrical fault caused ignition of wiring.
6/1/71	149, Line 41	Maintenance changing dry box exhaust valve waste bag was held to catch waste product. An abnormal amount of condensation flowed out of the pipe. Health physics monitor decided to dump the waste bag because of possibility of a criticality incident. \$2271 loss.
6/17/71	---	Power outage caused loss of glovebox negative pressure and pressurized the work area with respect to the office area. No injuries, no contamination spread. Caused by circuit overload.
7/2/71	Outside Bldg	Corrosion leak in non-line waste drum stored outside on asphalt pad. Contamination on the pad. \$3282 loss.
8/22/71	164	Exothermic reaction in a small produce can containing some Pu material. Two employees received reportable lung burdens. Pu contamination spread. \$60,000 loss.
9/2/71	179	Employee using lathe cut off end of finger when it was caught between chuck jaw and side of cut off tool. DI #26.
9/12/71	149	Hole in barrel lines allowed Pu oxide to escape into room. Small Pu samples were placed in barrel with combustibles. The Pu had ignited some time during storage, causing breach of the barrel lines. \$15,600 loss.
9/13/71	149	Free plutonium metal in a drum to be incinerated burned a hole in waste bag contaminating Room 149. No injuries.
9/21/71	149	Waste outside of fire box was ignited.
10/10/71	149	Fiber pack material ignited outside of fire box.
11/23/71	114	Excess plutonium fluoride found in the hydrofluorinator. Criticality infraction. No injuries.
12/29/71	114, Line 5	Chemical reaction accompanied by an explosion in a Pu dissolution pot. The pot had contained Be-contaminated Pu chips and fines were being dissolved in nitric acid. Line 5 chemical reaction and explosion. Blew out 3 sample plugs and caused 3 criticality drains to overflow. No injuries. \$3770

		loss.
2/8/72	149	Pressurized incinerator glovebox due to unsafe manner of punching aerosol glue can near burning incinerator. \$20,000 loss.
2/20/72	114	Unplugging drain line with steam caused tank to become pressurized and contaminated room. \$3931 loss.
2/26/72	East Corridor	Plastic bottle containing residue out of booster III exploded. Nitric acid/metal reaction. Area contaminated. No injuries.
2/28/72	163	Glovebox filter was being changed. The old filter stuck, and as extra force was applied some oxide was jarred loose and contaminated area. \$2100 loss.
3/2/72	149	Waste ignited while loading incinerator.
3/24/72	181, Line 45	Corroded steam condensate header leaked contamination onto floor by Line 45. \$1555 loss.
3/30/72	149	Oil sludge ignited on hot plate.
4/10/72	149	Spontaneous combustion of waste materials outside of incinerator due to glovebox airflow reversal. \$6000 loss.
5/2/72	182	Ice cream carton fell from holder, spilling Pu onto floor. \$4562 loss.
5/15/72	149	Pu sludge ignited while on hot plate.
5/17/72	149	While maintenance was cutting a piece of contaminated exhaust pipe, a puff of dust came out the end of the pipe. \$1487 loss
6/21/72	149, Line 41	Corroded steam supply header leaked contamination. Cause was galvanic corrosion. \$2711 loss.
7/1/72	148	Impure fluoride or possible impure calcium metal charge caused overpressurization of reduction vessel. Overflowed criticality drains contaminating room. \$3871 loss.
7/24/72	149	Combustible waste burning around incinerator door.
9/6/72	148	Glove failure—old hydrofluorinator. nineteen employees body counted, 3 with inhalation exposures. Room 148, 149 contaminated. (Rodding out operation being performed.)
10/3/72	114	Vacuum pump gasket ruptured, allowing

		contaminated liquid to leak into area. Overflowed criticality drain into room. \$1202 loss.
11/13/72	114	Maintenance was disassembling chemical pump, when the pump face was opened, more liquid than expected came out into tray that was there to catch the liquid. They also placed the mild steel bolts in tray and the contaminate solution reacted with them. \$962 loss.
12/22/72	249	Welding on filter holding frames ignited Kim-wipes on plenum roof.
1/5/73	149	Pu contaminated solution leaked onto room floor when valve on tank sample device had matter lodged under the valve seat. \$772 loss.
1/21/73	149	Chemical reaction caused back pressure on check valve. Threaded connections leaked under pressure to cause spill. \$825 loss.
3/15/73	149	Burning waste fell to outside of glovebox.
3/19/73	141	Process liquid containing Pu solution entered a vacuum pump causing overpressurization resulting in a ruptured seal, allowing liquid to flow onto floor, contaminating room and hallway. \$3728 loss.
4/11/73	149	A window was being changed using sleeve method inside a plastic house. One corner came off, causing contamination of the room. \$2285 loss.
5/3/73	---	Seal leak between balance and glovebox causing contamination. \$1112 loss.
6/26/73	114	An air activated valve was improperly installed and when the line was activated, it leaked causing contamination. \$3078 loss.
8/14/73	---	Booster III temporary loss of supplied breathing air. Cause unknown. No injuries.
8/24/73	146	Valve left open, which allowed nitric acid to flow from a chemical make-up tank to the tank in the process acid, overfilling tank. This allowed liquid to flow out a vent line which, in turn, flooded a glovebox and liquid ran out the criticality drain. \$1600 loss.
9/11/73	281, Main plenum	Strange odors. Employees wearing full face respirators became dizzy and nauseous. No other problems. Source unknown.
10/15/73	114, Tank 952	This tank contains recycle solutions generated in

room 114. The criticality limit is 1 kg. of plutonium. The sludge buildup contained 5.4 kg. Each calibration compared to previous calibration instead of original calibration.

11/17/73	148, Line 20	An employee received an inhalation exposure when he was being undressed at the completion of a supplied breathing air operation.
2/18/74	147	Improperly installed blank in the supply duct between rooms 141 and 147 had a 1/8" gap. When the reversed air flow occurred, Rm 114 became contaminated. \$3078 loss.
4/15/74	114, Tank 953	Raschig ring void discovered. Assumed it was caused by incomplete filling. No injuries. No problems. Nuclear safety infraction.
7/24/74	114	Poor construction of plastic house on Raschig ring removal from tank caused contamination of area. \$833 loss.
1/1/75	114, Line 1	Type C occurrence. External radiation exposure to the hand.
3/3/75	114, Tanks 551-512	Removing head tanks 551-512 in plastic house. One employee received inhalation exposure. Employees wearing FF respirators, exposure received during undressing.
7/16/75	146	Process liquid came in contact with welding area, on process liquid transfer line. This caused pressure and loss of vacuum on the line allowing contamination of area. \$2200 loss.
7/30/75	149, Line 41	During a grinding operation, an operator unknowingly cut a glove while opening a bag of residue for processing. Operator received more than the permissible lung burden. \$1609 loss.
7/31/75	114, Line 16	Unplugging calciner, glove failure, 200 sq. ft. floor contaminated.
9/5/75	146A	Flowmeter ruptured, operator sprayed with contaminated caustic and steam.
1/7/76	149, Line 24	Criticality infraction. Wet ash heel in line. Crit limit allows dry metal only.
1/13/76	114, Line 3	One glove failed—four others contaminated, 200 sq. ft. of floor contaminated. One employee body counted—2nd count background.
1/20/76	---, Tank 453	Employee contaminated arm while removing sludge

from tank #453.

1/23/76	147, can counter	A one-gallon container filled with towels, used to clean up nitric spill in a line, was found. Reddish brown fumes were being emitted: sur-viv-air units were used to investigate and move the container to Line 3.
1/24/76	---	Cotton towels used to clean up nitric acid spill were not thoroughly washed before discarded. Reaction occurred. No injuries. No contamination released.
2/4/76	---	Deluge valve bumped open on the incinerator plenum. 10,290 liters of water in plenum. No injuries.
3/11/76	---	PuO ₂ unaccounted for. Trip ticket not kept with container.
3/24/76	149, Line 30	Employee punctured hand with tweezers while working through glovebox gloves. Employee restricted.
5/19/76	189	R&D experimented with high pressure press. Electrical short took place when the two parts of the press made contact. Someone had left the electrical heaters in the on position. This resulted in overheating of a Pu specimen. \$13,857 loss.
5/28/76	152B	Employee moving drums, hurt back.
6/29/76	149, Tank 452	Employee removing Raschig rings received acid burn.
6/30/76	114, Line 2, Tank 923	Contamination leaked from a process steam line. (Steam condensate TK 923 put on vacuum 9" HG 15 liters of 12N nitric pulled into steam line out of Line 2.)
7/15/76	metal storage cab.	Opened bottle of paint stripper turned over and splashed the front of an employee.
7/20/76	149, Line 21C	Contractors working overhead, weld stressed. 2000 sq. ft. floor contaminated. No injuries.
7/20/76	149, Line 21	Leaking transfer line above Line 21.
11/8/76	---	Employee putting nuts on window popped shoulder. Surgery required. Accident happened 2-3-76.
11/18/76	110	A 2.5 gram sealed source fell on the floor and subsequently leaked contamination in office area and cafeteria. \$14,334 loss.

12/7/76	Line 216	Caustic overflowed. Crit drain. Liquid level sensor in Line 216 malfunctioned.
12/10/76	114; Line 3	Steam line valve above Line 3 leaked. Local area contaminated.
1/13/77	114, Tank 177	Ring void. Crit. infraction.
3/9/77	147, can counter	Container to be counted leaked. Storage area.
4/13/77	181	Employee received electrical burn when a portable down unit was unplugged.
10/14/77	180A	Employee moving ladder, fell, cracked knee cap.
1/20/78	114, Line 16	Puncture wound, contaminated rodding out calciner, cable was frayed.
3/3/78	249, incinerator plenum	Gate valve on the sprinkler system was leaking. A total of 5040 liters was transferred to Bldg. 774. Level alarm in the incinerator was inoperative.
6/20/78	--	Employee playing volleyball. Sprained ankle.
6/26/78	--	Employee playing volleyball sprained ankle, also later on sprained same ankle on stairs.
7/2/78	--	Employee walking outside, stepped in hole, turned right ankle.
8/28/78	--	Contractor fibreglassing ducts, hose ruptured—cause appears to be equipment.
9/20/78	114, Line 1	Repacking 2 drums of salts. Bag of salt leaking. 5 possible inhalations. 3 initial counts were positive west half of room 114 contaminated to 1,000,000 CPM.
10/10/78	--	Employee twisted wrist, surgery required.
10/18/78	249, incinerator plenum	Welding operation resulted in fire. First stage of HEPA filters. No injuries.
11/15/78	181	Hoist gave way. 138 pound pipe fell to floor. Cause—poor quality unistrut nut. Pipe hit one employee on the foot.
12/20/78	--	Fire outside of incinerator plenum. Welding operation. No injuries. No contamination spread.
1/29/79	--	Employee wearing particulate filter only to remove paint stripper. Became woozy and fainted.

5/4/79	Annex, so. drum count	HEPA filter from plenum FU-2 was punctured. Three employees body counted. One initial positive.
6/17/79	180, Line C	Type "C" exposure—second half of month.
6/19/79	181A, Line 46	Glovebox leaked. Two persons body counted—one positive. Leak due to maintenance operation on wall of box.
7/13/79	146, Box MT-6	Inlet filter installed cocked. Low box vacuum (0.03") released contamination. Three employees body counted—all three positive. Exhaust filter on MT6 was plugged.
8/10/79	Corridor D	Employee put hand through window. West end corridor D.
9/5/79	---	Employee moving drum—muscle sprain in hip.
7/22/80 7/29/80	249 INC PLenum	Overheat condition reported by utilities ignited filters.
2/3/82	149, Box 44	A needle valve was found to be leaking contaminated nitrate solution. The valve was supposed to be removed, but due to lack of communication, the valve was forgotten.
3/19/82	149, Line 24	NMSPI 82-5, a glovebox contained 3019g Pu, exceeding the limit of 2500g.
4/19/82	247, chem. makeup	An improperly positioned caustic fill valve caused the overfilling of a vacuum system mist tank that resulted in 11.65M KOH flowing onto the vacuum system equipment and the floor of the area.
4/29/82	114, Line 5	NMSPI 82-6, used FulFlo filter was placed too close to other fissile material which exceeded posted spacing requirements.
5/6/82	114, Line 5	NMSPI 82-9, placement of two leached parts in the same spray hood. Only one part is allowed per hood with no exceptions.
5/10/82	147A	NMSPI 82-10. Overloading of a 55 gallon drum with 524g of wet FulFlo filters. The limit is 500g.
5/11/82	114, Line 3	NMSPI 82-13, dirty oxides were dried and then cut out of the line. It was then determined that the oxides contained 12% moisture and were therefore considered wet Pu. The oxides weighed 1954g and the limit for wet Pu is 400g.
5/24/82	114	During a supplied air operation, the docking ring uniting the hood and suit separated and suit was

breached. Employee transported to medical.



6/26/82	247	A chem. operator was filling a 12M nitric acid tank (tank #23) and left the room to take a sample to the lab. The automatic shut-off valve failed and 100 gallons spilled onto the floor of the room and into the hallway.
7/13/82	114, tank 950	Waste of 2.58g Pu per liter were transferred to a tank whose limits are 3.7E-3g/liter. This caused a total weight of 1250g in the tank exceeding the 200g limit.
7/15/82	776 truck gate	Alarm technicians were installing conduit in a trench using electric power tools. The fire dept. began running tests of the sprinkler system in 776. Water resulting from these tests filled the trench with 4" to 12' of water creating an electrical hazard.
8/4/82	148, Line 19	A chem. operator placed two containers of PuF ₄ next to a K-furnace with product in the reduction vessel.
8/9/82	149, Line 22	A can of material was introduced into the west burn box that weighed 3483g (limit = 3000g), was the third container added (limit = 2 containers), and was larger than the 1 liter limit for the box.
8/10/82	---	NMSPI 82-19 Three batches of material with Pu contents of 366g, 675g, and 717g were processed in the glovebox, the established limit for each batch is 200g Pu metal.
8/18/82	238	Two machinists were installing a supplied air fan using a hoist. Small pieces of debris began falling so the fan was lowered. Upon inspection, it was found that the ceiling channel was corroded causing the hoist to fail.
9/29/82	114, Line 7	Six containers (approx. 2500g of oxide) were bagged from a cart into Line 7. Temporary limit allowed six containers to be bagged in provided each was limited to a maximum of 1400g of PuO ₂ and that the material being transferred came from Lines 8 and 9 only.
10/5/82	182, Box 226	The wrong power button was pushed causing power to flow to a furnace which was not in service. As a result, the induction coil overheated causing the insulation to smoke, disintegrate, and ruin the coil.
11/16/82	110, Cafeteen	Employee contaminated by cafeteen table.
11/22/82	114	Two chemical operators removing and packaging

		Raschig rings became hyperventilated, which made them dizzy.
2/1/83	153, GB 1530	NMSPI 83-2. Precipitator pot larger than 4-liters. Posted limit stated no containers greater than 4-liter capacity.
3/17/83	110, Cafeteen	Ice cream freezer compressor exploded when compressor failed to shut down after reaching cooling set point.
3/25/83	149, Line 33	Incinerator drum filtration line. Process water line was contaminated with 3 molar caustic (KOH) and plutonium at Line 33.
4/21/83	114, Line 5	NMSPI 83-7. Line 5, parts in both the dissolver vessel and the leaching vessel at same time - not allowed by limits.
5/19/83	146A, MT-1	Line MT-1. A bottle marked Freon was used to degrease a batch of plutonium turnings/sludge. The bottle actually contained aluminum nitrate which reacted with the plutonium, the reaction oxidized and dissolved some of the material.
6/13/83	153	Overhead waste drain leaked contaminated 300 sq. ft. floor space, pipes, a wall, and a glovebox.
6/22/83	114	Contamination release to process area.
7/8/83	149, Line 22	NMSPI 83-12. West storage section of Line 22, one can with 2062 g Pu and one can with 2109 g Pu. Limit = 2500 g Pu.
7/8/83	—	Two air effluent samplers showed higher than normal Pu concentrations. No cause could be determined.
7/13/83	771A	Waste drums were being moved from 771A to 776. Next day, another driver and laborer used same truck and their shoes became contaminated. Through tracing, contaminated drums were found, 3 vehicles were contaminated along with various areas on plant site.
7/25/83	---	NMSPI 83-A. Bag found without proper slits cut in it. Plastic pen allowed to sag and form a reservoir more than two inches deep while being disassembled. Contaminated liquid accumulated in the reservoir.
8/2/83	149	A waste collection tank was found to contain more than the 200 g Pu limit.

8/25/83	---	Filter Plenum, 3rd stage FU-28. During supplied air job filter technicians (3) reported getting sick from acid fumes. Cause unknown.
10/11/83	---	NMSPI 83-19. Four position transfer cart had too much shielding.
10/14/83	---	NMSPI 83-20. 55-gallon drum limit exceeded when can was counted at can counter to be 300 g, then placed in drum without being split and recounted.
12/15/83	114, Line 7	NMSPI 83-23. Operator cleared plugged discharge of fluorinator, 6500 g Pu fluoride (4530 g Pu) fell to floor. Limit = 3500 g Pu. Classified report.
1/17/84	114	Five used FulFlo filter cartridges were found in the line. Only four are allowed.
1/24/84	181A	A 55 gallon drum was left unattended with the lid off. 55 gallon drums can only be left unattended when the lid is on.
1/30/84	114	Pan Measuring 7 x 12 x 2" was used to collect material from an offgas line. The accepted size is 6 x 9 1/2 x 2".
2/6/84	182	NMSPI 84-7. Bldg 771 and 707. Non-approved furnace equipment (screens) used on top of funnels during casting. All furnace equipment must be approved by criticality engineer.
2/7/84	149, Line 37	Incinerator fire. A fire occurred in the sorting box next to the incinerator. Two gloves were burned off of the box at the ring where they attach to the glovebox. Apparent cause: Ignition of fumes coming from the paint stripper-soaked wipes.
2/8/84	---	Criticality drain in a box was partially plugged with tools.
2/12/84	114, Line 3	NMSPI 84-11. Two container plus one container of floor sweepings were determined to contain total of 5974 g Pu. Limit = 5000 g Pu.
2/15/84	148	Button Breakout. Electrician either bumped or brushed up against the criticality drain flange. Respirators were not worn. Possible inhalation.
3/16/84	149, Line 50	NMSPI 84-15. Caustic filtration. Solution greater than discard level concentration shipped to B774 on pm shift.
3/30/84	114, Line 3	NMSPI 84-16. Pan of fissile material less than 12" edge-to-edge from other fissile material and greater

than 2" in depth in pan (heaped).

3/31/84	---	Nitrate solution dripped on employee from transfer line. Leak due to poor welding job. Area and employee contaminated.
3/31/84	169, File Cabinet	A filing cabinet contained vials holding Pu of about 20 g. The vials were returned to the glovebox in Room 128.
4/5/84	114, Line 3	NMSPI 84-18. North section of Line 3. Exceeded both total mass limit and individual container mass limit.
4/6/84	114, Line 3	NMSPI 84-19. Line 3. Container on hotplate spaced 7" from FulFlo filter cartridge. Limit requires minimum 12" edge-to-edge spacing.
6/6/84	148, Line 20	NMSPI 84-31. Line 20, Section 884, Button Breakout. 2 1/2" diameter solid sample rack found inside criticality drain.
7/7/84	149, Line 42	Valve failure on tank 470 caused a four foot area to be contaminated.
7/13/84	114, Line 6	Criticality drain overflowed when automatic shutdown valve failed.
7/22/84	146A, B	A 30-gallon bag, used to hold decontamination supplies, had no slits cut in it to prevent accumulation of solution.
7/25/84	149, Line 24	Operating personnel were asked to bag wet incinerator ash. The container used to hold the ash exceeded the 4-liter limit.
8/6/84	---	Two 30 gallon bags were underneath fissile solution lines but did not contain slits to prevent accumulation of solution.
8/7/84	146, MT-1	A plastic bag of approximately 14-liters volume was taped to a process line to hold surgeon's gloves. No slit was in the bag to prevent build up of liquid.
8/27/84	Residue Process	Furnace fire caused by replacing initiators before furnace had sufficiently cooled, starting a fire.
9/17/84	164, Box 83	233 g fissile material accumulated in Box 83 exceeding the 200 g limit.
10/4/84	Tunnel	NO _x vapors were detected in 771/776 tunnel. Malfunction in the exhaust damper system was apparently at fault.

10/12/84	149, Line 42	Anion Exchange. Two used FulFlo filter elements on a drying rack were spaced less than 12" from a FulFlo cannister used for floor pickup solutions.
10/14/84	R&D Crusher	A plastic bag was used to hold wet contaminated Kim-wipes. The bag did not contain slits and could have filled to 16 liters violating the 4-liter limit.
11/7/84	Leach Part Cab.	The mass limit was exceeded for a storage shelf. 3 parts were on shelf and only 2 are allowed.
12/14/84	164, Box 83	213 g Pu was in Box 83 exceeding the 200 g limit.
1/8/85	149	Three filters were removed from line at one time violating the proper procedure of removing only one filter at a time.
3/26/85	181	A contaminated bag port caused a SAAM alarm to sound. An operator was contaminated - she had not gone through the pre-glove check.
3/28/85	247	A tank containing nitric acid overflowed. The operator left the room without turning off the transfer valve. Automatic shutoff valve failed also. 
6/13/85	---	A criticality drain overflowed when a valve was accidentally left open.
6/27/85	---	A solution was to be transferred from a pencil tank to a Raschig-ring filled tank. The wrong tank was drained causing a violation of the accepted limit of 150 g/liter Pu.
7/1/85	114	A FulFlo filter was spaced only 6" from a filter cannister which was in use. This violated the spacing requirements.
7/11/85	149	Package of impure PuO ₂ weighed 3861 g while limit is 2500 g.
7/19/85	Utilities	Water running into exhaust fan caused short circuit. When attempt was made to restart fan, worker received shock and fire started.
7/23/85	181	Contamination released when glove was being removed from box.
8/25/85	247	Tank overflowing onto floor while operator was out of room. 
9/19/85	149, Line 20	Floor sweepings in Line 20 were placed in a plastic container and taken to the cold storage area near Line

27. The container containing plutonium and plutonium compounds pressurized and subsequently released radioactive material to room.

9/19/85	149	Glovebox floor sweepings containing moisture were added to sweepings of calcium metal. The exothermic reaction caused a pressure build-up which caused the can seal to break releasing radiological contamination.
11/1/85	---	Liquid was transferred from a safe pencil tank to an unsafe annular tank.
12/3/85	---	Employee mixed bleach, water, and a cleaning agent together causing a gas that made the employee feel sick.
12/3/85	164	Glovebox was undergoing cleanup and exploded when acetone ignited from an operating hot plate. Technician injured by window glass.
12/9/85	East Annex	Two drums exceeded maximum amount of fissile material of 500 g per drum.
12/15/85	---	High urine sample. Sensitive report.
1/14/86	149	Five containers containing fissile material were placed into glovebox violating limit of four containers.
1/24/86	149	Combustible material of over 1000 g was placed in a glovebox violating the limit.
2/15/86	---	Contaminated employee. Sensitive report.
2/18/86	149	Two containers combined exceeded limit of 2500 g Pu.
2/20/86	114, Line 11	A vacuum trap would not drain. In an attempt to fix the problem, an operator felt drops of liquid falling on his head. He was found contaminated and taken to medical. It was determined that a weld in the neck flange had failed, allowing steam and condensate to leak out. A further inspection found four vacuum traps with faulty welds.
2/27/86	249	Due to a lack of argon to a welding torch, it sparked and fly ash began to smolder on a filter.
3/17/86	114, Line 3	NMSPI 86-7. Operators introduced two cans of material into Line 3, failing to observe mixed feed left in a batch can on the batching table. The combined weight was 5429 g which is over the limit of 5000 g for the area.

4/24/86	114, Lines 13/14	Two chemical operators were found to be highly contaminated after working a drybox. 11 gloves were found contaminated, but no holes in any gloves were found. The procedure for self-monitoring after working in gloveboxes was apparently not followed, which caused spreading of contamination.
4/28/86	114	Two carpenters were assigned to remove a handle on a shield for decontamination. They left for lunch before removing the handle and upon returning found the handle already removed.
5/3/86	114, Line 7	NMSPI 86-11. Two containers were spaced less than 12" apart and 2047 g Pu were present in an area where only 2500 g are allowed.
5/6/86	249	Negative on the incinerator plenum airlock was non-existent during undressing of person in supplied air suit causing person to become contaminated. This happened because both equalizer valves were closed at the same time.
5/16/86	114, Lines 6/7	Two chemical operators found themselves contaminated after using new gloves. Upon inspection it was found that almost 70% of the new gloves had cracks and minute tears in them. Upon changing the gloves, contamination was released into the room.
5/23/86	180D, Line 21C	NMSPI 86-12. Sludge material in a pan was dry, but not placed in an 8801 can before being introduced into the operating line.
6/21/86	148, Line 19	NMSPI 86-14. Two buttons were produced, weighing 2109 and 2111 g, respectively, in violation of the 2100 g limit.
6/27/86	Residue Process	An operator was injured by a pressurized incinerator feed drum when it was opened. The drum lid hold-down mechanism was not resting atop the drum lid. When the drum ring was removed, pressure from inside the drum pried the unbolted drum ring off, raising the lid. The operator's hand and hip were struck by the drum ring when the pressure was released from the drum.
7/11/86	114	Four used filter cartridges and one used filter found in line thus exceeding nuclear materials safety limit of four.
8/11/86	249	Plutonium material was heaped in a 2" pan in line batching section. During routine maintenance of feed auger material was spilled on floor, causing an excess build-up of material on the floor. During

clean up a 2" pan was heaped causing violation.

9/2/86	149, Line 23	Too many containers containing fissile material were found in Line 23 Batching area.
9/25/86	Grinnel Fire Alarms	Criticality alarm panel was without emergency power when electricians stripped out abandoned wiring.
10/12/86	114B, Line 17	NMSPI 86-22. At shift change, personnel noticed the free-metal canister in the line contained 628 g of free-metal which is over the limit of 500 g.
10/27/86	114, Line 5	NMSPI 86-24. An empty poly plastic bag-out bag (18 x 24") was found open hanging underneath a fissile solution transfer line. No criticality drain slits were cut in the bag.
10 27/86	114, Line 15	NMSPI 86-23. A dirty FulFlo filter cartridge was removed from the FulFlo filter in Line 15. The cartridge was then placed on the flange of 516A digester, causing a violation of the spacing limit between containers containing fissile material.
10/27/86	Door 1	Locking mechanism on secured door failed.
11/6/86	—	Maintenance operations were in process of removing items from a glovebox system, as workers were removing a piece, plutonium contamination was released to the area.
11/6/86	163, Box 115	Inadequate job review and lack of communication, inadequate site preparation, and misapplication of procedures resulted in release of plutonium oxide to room atmosphere from glovebox. Five employees required body counts.
12/10/86	148, Lines 19, 20	Smoke build-up, containing high levels of airborne contamination, from the plasma arc cutting system remained in supplied air house for short time after cutting had ceased. Three employees became contaminated while removing a breathing air garment.
1/28/87	114, Line 7	Smoke and fire inside glovebox apparently started by a hot plate that was left on and turned upside down near some combustibles.
2/5/87	147, Can Counter	NMSPI 87-3. NDA operator wrote 159 g instead of 259 g when transferring the gram value to package. When package was placed in 55-gallon drum, drum contained 1030 g which is over limit of 1000 g.
3/1/87	114, Line 11, 15	A glove on Line 11 and a glove on line 15 failed, causing contamination of 3 personnel, equipment and

		the tracking of floor area. Entire operation was shutdown until decontamination was complete. None of the operators received body burdens.
3/2/87	149, Line 24	Operator noticed material sparking and glowing in a can of fines transferred to B771 from B707. Reaction took place in a glovebox. Fines were not burned twice as procedure calls for.
4/10/87	Tanks 362, 363	NMSPI 87-8. Drain valve on Tank 362 locked in open position during approved transfer of solution from tank 363 to B774. Approximately 40 liters of unsampled solution from tank 362 were transferred with solution from tank 363.
4/13/87	114, Line 5	NMSPI 87-9. Midnight shift chemical operator changed FulFlo filter in Line 5 and placed used filter on drying stand, approximately 6" from another filter. Limits specify that filters must be spaced 12" or more from each other.
4/14/87	146A, Line MT-5	A cake pan (9 1/2 x 6 x 2", 1.6 liter volume) was used for blending enriched uranium oxide batches to obtain a consistent mixture. The cake pan violated the volume limit of 1 liter.
4/23/87	114	NMSPI 87-13. Stainless steel pump transfer container of approximate dimensions 18 x 18 x 24" was found with no lid. Container was placed under a fissile solution transfer line violating the four liter volume rule.
5/8/87	Outside	A light driver was transporting HF cylinders from B130 to B771 HF storage area. As truck was turning corner and moving over rough road, one strap loosened allowing cylinders to roll toward back of truck. Forklift operator stopped cylinders from rolling off. One operator received slivers in arm.
5/19/87	149, Line 37	Two employees entered supplied air and removed a blank on incinerator. Air mover was taken out of service to supply negative pressure. Negative pressure was being lost so air mover were turned back on to minimized contamination release.
7/1/87	Nitric Acid Dumpster	Operator noticed a leaking hose on portable dumpster which supplies nitric acid to chemical makeup area. Approximately 35 gallons of nitric acid leaked from hose to soil. Acid was neutralized with potassium hydroxide flakes and sodium bicarbonate.
7/23/87	Maintenance Dock	Heavy driver was transporting a 10 cu yd capacity compactor box with the compactor trash truck. He lifted the box up to see pedestrians and nicked

slightly sagging telecommunication wires.

7/29/87	146B	NMSPI 87-18. Cover of sump pump pit enclosure was left open during the replacement of the sump pump. The pit has unsafe dimensions and there are fissile solutions in pipes located near the pit.
8/13/87	149, Line 29	NMSPI 87-20. Two 4-liter containers of laboratory waste were placed in the ion exchange area, approximately 8" from the tertiary column. This violated the established nuclear safety limit allowing a single 1-liter container and 12" spacing.
8/19/87	114, Line 3	An operator moved a dirty FulFlo filter to the north end of Line 3 to be bagged out. Dirty FulFlo filters are not allowed in the north batching area of Line 3 violating a nuclear materials safety limit.
8/25/87	249	A sheet metal worker was grinding a weld on the penthouse inside FU-1 filter plenum when his ladder slipped. The workman released the grinder to catch his balance and it struck his left wrist. Five sutures were required to close the wound.
8/31/87	114B, Line 17	A mix of water and hydrofluoric acid was introduced into hydrofluorinator resulting in moist plutonium tetrafluoride. The reaction between this moist material and calcium metal pellets produced sufficient heat to ignite and cause open hearth reduction.
9/4/87	183	When opening the secondary containment on a shipment of metallographic samples, the operators realized the third inner bag was not sealed. 1400 sq. ft. of room was contaminated. Operators were contaminated on their hands and arms.
9/10/87	108A	Wiring on a hot plate in use in a glovebox began to burn. A tygon hose lying on the floor next to the hot plate had a hole melted in it and water leaked onto the glovebox floor.
9/28/87	Corridor A	Asbestos contaminated dust, which had collected on top of ceiling tiles became airborne when the ceiling tiles were removed and contaminated two individuals.
10/13/87	149, Line 30	NMSPI 87-26. Night shift found two containers containing buttons sitting next to each other in a 10 x 72" O-ring bag. This was in violation of the 12" spacing requirement for Line 30.
11/4/87	149, Line 42	NMSPI 87-28. Resin was cleaned from the glovebox floor, placed in Kraft tube, eluted, removed from Line 42, and placed in drum. Results

from drum counter showed 823 g Pu, exceeding the allowed limit of 500 g.

- 11/16/87 114 NMSPI 87-29. 55-gallon drum was taken to drum counter and found to contain 608 g of Pu which exceeded the allowed Pu limit of 500 g.

- 1/12/88 149, Line 38 Operating personnel were conducting routine monthly glove changes. Operator was unable to maintain seal between the glove and glovebox and a small amount of incinerator ash was released into room contaminating operator, radiation monitor, and area.

- 1/13/88 114, Line 16 During re-assembly of calciner after inventory teardown, personnel discovered a contaminated glovebox glove. Contamination was released while maintenance personnel were making a glove change to replace the contaminated glove.