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UNIQUE DOCUMENT NUMBER
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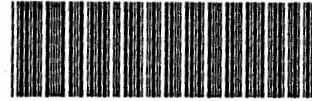
THIS DOCUMENT CONSISTS OF 6 PAGE(S)

RS7230/90/00018
June 2, 1990

~~THIS DOCUMENT CONSISTS OF 10 PAGES
NO. 19 OF 21 SERIES, SERIALIZED~~

UNIQUE DOCUMENT # SAC200118450000

HQDP010050421



A SUMMARY OF ACCIDENTS AND SIGNIFICANT INCIDENTS
INVOLVING U.S. NUCLEAR WEAPONS
AND NUCLEAR WEAPON SYSTEMS (U)

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: <u>6/90</u>	1. DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: <input type="checkbox"/> DC <input type="checkbox"/> DD	1. CLASSIFICATION RETAINED
NAME: <u>BILL LAWRENCE</u>	2. CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: <u>1.5.99</u>	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY:	4. COORDINATE WITH: <u>AT</u> <u>HP</u>
NAME: <u>Bill Lawrence</u>	5. CLASSIFICATION CANCELED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY): <u>CONTAINS SELECTED</u>

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USAF, No unclassified brackets, 5/11/99 ltr.

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~~Classified by J. F. Mey Department 7230
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TABLE 1 - SUMMARY OF ACCIDENTS INVOLVING US NUCLEAR WEAPONS

ACCIDENT NUMBER	DATE	LOCATION	WEAPON CONFIGURATION		TYPE OF ACCIDENT	NUCLEAR WEAPON RESPONSE	
			ASSEMBLED WEAPONS	UNASSEMBLED WEAPONS		HE RESPONSE	HE DETONATE
1	02/13/50	Puget Sound, WA	-	X	Jettison, 8000'	-	-
2	04/11/50	Manzano Base, NM	-	X	Crash into mountain	-	-
3	07/13/50	Lebanon, OH	-	X	Crash in dive	-	-
4	08/05/50	Fairfield-Suisan AFB, CA	-	X	Emergency landing, fire	-	-
5	11/10/50	Over water, outside US	-	X	Jettison	-	-
6	03/10/56	At sea (Mediterranean)	-	-	Aircraft lost	-	-
7	07/27/56	SAC Base	-	X	B-47 crashed into bunker	-	-
8	05/22/57	Kirtland AFB, NM	-	X	Inadvertent jettison	-	-
9	07/28/57	At sea (Atlantic)	-	X	Jettisons, 4500' & 2500'	-	-
10	10/11/57	Homestead AFB, FL	-	X	Crash on takeoff, fire	-	-
11	01/31/58	SAC base overseas	X	-	Taxi exercise, fire	-	-
12	02/05/58	Savannah, GA	-	X	Mid-air collision, Jettison	-	-
13	03/11/58	Florence, SC	-	X	Accidental Jettison	-	-
14	11/06/58	Dyess AFB, TX	X	-	Crash on takeoff	-	-
15	11/26/58	Chenault AFB, LA	X	-	Fire on ground	-	-
16	01/08/59	US base, Pacific	-	X	Ground alert, fuel tanks on fire	-	-
17	07/06/59	Barksdale AFB, LA	X	-	Crash on takeoff, fire	-	-
18	09/25/59	Off Whidbey Is., WA	-	X	Navy aircraft ditched	-	-
19	10/15/59	Hardinburg, KY	X	-	Mid-air collision, Impact	-	-
20	06/07/60	McGuire AFB, NJ	X	-	Missile fire	-	-
21	01/24/61	Goldsboro, NC	X	-	Mid-air breakup	-	-
22	03/14/61	Yuba City, CA	X	-	Crash after abandonment	-	-
23	11/13/63	Medina Base, TX	-	X	Storage Igloo at AEC plant	-	-
24	01/11/64	Cumberland, MD	X	-	Mid-air breakup, crash	-	-
25	12/05/64	Ellsworth AFB, SD	X	-	Missile re-entry vehicle fell	-	-
26	12/08/64	Bunker Hill AFB, IN	X	-	Taxi crash, fire	-	-
27	10/11/65	Wright-Patterson AFB, OH	-	X	Transport a/c fire on ground	-	-
28	12/05/65	At sea, Pacific	X	-	Aircraft rolled off elevator	-	-
29	01/17/66	Palomares, Spain	X	-	Mid-air collision, crash	-	-
30	01/21/68	Thule, Greenland	X	-	Crash after abandonment	-	-
31	Spng '68	At sea, Atlantic	X	-	Lost weapons	-	-
32	09/19/80	Damascus, AK	X	-	Missile fuel explosion	-	-

NOTES: 1. USAF 09/19/77 press release to Richard Panter, Eye-Witness News Boston, obtained under the Freedom of Information Act, supplemented by DOD per Appendix 1.

- The term "Assembled Weapon" means either that the separable nuclear capsule was installed but was not in the bomb's pit or a sealed-pit type of weapon with the nuclear material integral with the HE subsystem. "Unassembled Weapons" means that the separable nuclear capsule was not installed in the weapon. (The USAF press release for accidents 1-13
- Contamination from all accidents except 29 & 30 was low in radioactivity and highly localized in area affected.
- In the parentheses, the first number indicates the number of weapons that had the named response, and the second number gives the total involved in the accident.

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Accident #29 Palomares, Spain 7/17/66:

1. A B-52 Aircraft carrying four Mk 28 Y1 Mod 2 War Reserve Weapons in an MHU-20/C Clip-in Assembly collided with a KC-135 Tanker at an altitude of approximately 30,500 feet during an overwater refueling operation. Both aircraft were destroyed.
2. The first weapon was found to be relatively intact with the loading lugs still engaged in the MB-3 Release mechanism. The tail closing plate was torn away from the rear case and the pilot chute had deployed. The bomb nose was depressed slightly and three of the fins had been torn away. The Arm-Safe Switch indicated SAFE. In accordance with rendering safe procedures, the weapon battery was removed. DOE
b(3)
3. The primary of the second weapon which impacted in the village apparently underwent a low order detonation. DOE
b(3)

The afterbody was fairly intact and the pilot chute had deployed. The weapon case and internal weapon components were badly broken and mangled by impact and detonation. DOE b(3)

4. The third weapon which impacted in rocky hills also experienced a low order detonation of the primary explosives. DOE
b(3)

The crater measured approximately 20 feet across and six feet deep. The afterbody and parachute pack were blown approximately 100 yards from the crater. The mild detonating fuze had detonated and the pilot chute had spilled out. The main chute was out of the ruptured afterbody case but was retained in the chute cover. DOE
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5. The fourth weapon recovered from the sea was disassembled by Explosive Ordnance Disposal (EOD) personnel who performed EOD procedures of EODL 62-29. Difficulty was experienced in removing the locking ring to separate the fuse section from the warhead due to silt which was forced into the threads. Water pressure had crushed the warhead fire set pressure cover around the internal components making removal of the cover difficult. A small amount of water was found in the warhead. Difficulty was also experienced in removal of the thermal battery pack which had not fired. The weapon nose had a large dent on the lower side and four small dents forward of the front rivet line. The weapon was not corroded except for small blisters on the tail section.

The tail section had two long gashes through both skin layers along each side of the bottom fin and the fin appeared to be bent inward. The tail closing plate and the ring were forced off and the parachutes were deployed.

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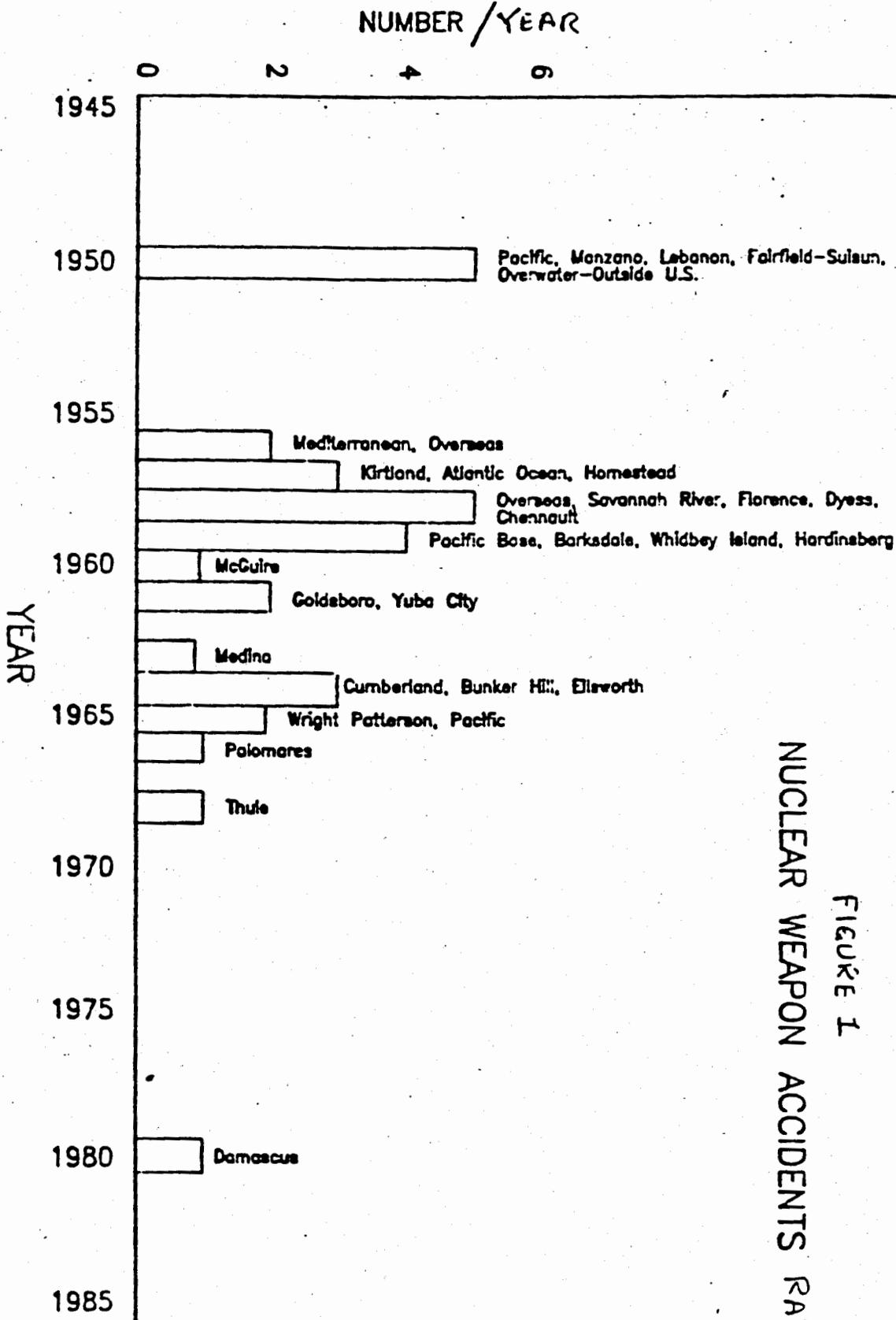


FIGURE 1

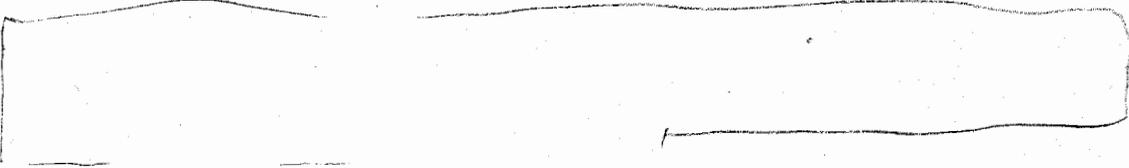
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summary, of the nuclear weapons involved in the accidents since 1950:

- ...One of the 16 weapons (accident 4, Table I) involved in accidents with liquid hydrocarbon fuel fires (7 accidents) or missile propellant fuel fires (1 accident) experienced high-order HE detonation.
- ...Five of the 11 weapons involved in aircraft crashes (6 accidents) experienced HE detonation.
- ...Five of the ten weapons involved in accidents with free-falls (8 accidents) experienced HE detonation on impact. Free falls resulted from ejected missiles (1 accident), aircraft which broke-up in mid-air (2 accidents), jettisons (5 accidents). Neither of the two weapons involved in aircraft ditching (1 accident) or aircraft rolling off of a ship (1 accident) detonated.
- ...None of the three bombs involved in accidents (2 accidents) with retarded falls from high altitudes experienced HE detonation on impact.

.. 

DOE
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In this total accident experience, there were two instances where extensive decontamination was performed: the Palomares, Spain, and Thule, Greenland accidents which involved dispersal of plutonium by detonation of the weapons' HE on impact. For the two instances where the plutonium melted as a result of the HE burning, only minor local decontamination (mostly washing and removing asphalt) was performed. None of the seven incidents involving uranium dispersal required decontamination.

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6