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DASA Technical Letter 20-3

DEFENSE ATOMIC SUPPORT AGENC
Washington, D.C., 15 October

ACCIDENTS AND INCIDENTS INVOLVING NUCLEAR WEAPONS (U)

This Technical Letter supersedes DASA Technical Letter 20-3, dated 1 March 1966 and appendices thereto.

1. PURPOSE.

This letter presents nuclear weapons accident and incident information which is considered to be of interest to commanders and personnel who have nuclear weapons responsibilitie

2. SCOPE.

The nuclear weapons accidents and incidents reported by civilian organizations, contractors, and the military Services are included herein. Future information shall be published quarterly as additional appendices to this letter.

FOR THE DIRECTOR:

OFFICIAL:
CHARLES E. ERWIN
Lieutenant Colonel, USA
Chief, Administrative Service

J. A. DARE
Rear Admiral, USN
Deputy Director, (Op & Adm

DISTRIBUTION:
A, B, C, D, E, F

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APPENDIX I

TO

TECHNICAL LETTER 20-3, DATED 15 OCTOBER 1967

Accidents and Incidents During the Period 1 July 1957 through 31 March 1967

Accident #1: (C~~RD~~)

A Mk 6 Mod 4 inert training weapon was being off-loaded from a bomber aircraft. Red ar ing plugs were in the weapon, the fuzing baro was closed, and the arming wires were not discon ed from the aircraft. When the weapon was lowered, the arming wires were extracted, the nor firing sequence was initiated, and the detonator bridge wires were fired. Accidents very simil to this and identical in end result have been reported on three occasions from different sources.

Accident #2: (S~~RD~~)

This accident occurred as a result of a wiring error during modification of an inert Mk 6 4 Bomb to a Mk 6 Mod 6. During the modification of the MC-74, high voltage was connected to B channel load ring instead of the capacitor bank. This error in wiring left the capacitor bank t to the input side of the gap tube and ground, isolated from the charging voltage by the gap tube. ing test at time T_2 the gap tube was ionized and the capacitor bank charged through the tube. T seconds later the thermal relay was actuated shutting off all circuits. Since bleeder resistance out of the circuit, the charge remained on the capacitor bank. This fuse and fire set was install in a weapon which was used for loading training. After the loading exercise, the weapon was re ed for storage inspection and at this time it was found that the bridge wires in Channel B had be fired.

Accident #3: (S~~RD~~)

During the CAT test in the storage inspection of an inert Mk 6 Weapon, the arm-safe swit was removed from the fuse, and mounted on the bomb in the ARMED position. Battery cables w connected without first inspecting for proper assembly of the arming and safing wires. An asse man then proceeded to inspect the arming and safing wires and while doing so, slipped with the ring shackle in his hand. The arming wires were extracted. The safing wires caught on the arr ing wires and were also extracted. This started the motor generators and the timing sequence. Baros were set at -3000 feet and prevented application of ground to thyratron at T_2. The assem man then pushed in the pull-out switches which removed battery voltage from the filaments of the thyratron with consequent loss of bias voltage. This action caused the detonator bridge wires to fire.

Accident #4: (C)

The arming wires were extracted from the M22A1 Demolition Firing Device during the clo run-down phase of a demonstration of the M22A1 Demolition Firing Device used in firing of an in Mk 7 Weapon. Clocks were manually returned to zero with resultant firing of the detonator brid wires.

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Accident #5: (S~~RD~~)

This accident involved inadvertent firing of inert Mk 17 Mod 1 Weapon detonator bridge wires during test. The following sequence of events occurred:

a. Arm Baro closed; Fire Baro open.

b. T-147 Tester was connected and DC power was applied.

c. Arming and safing wires were removed from one bank of pull-out switches to simulate switch malfunction. This applied battery power to one side of the relays K3 and K4 in the fuse. At the same time, since the Fire Baro is opened, tester power is applied to the other sides of relays K3 and K4 through the Fire Baro monitor lines.

d. Arm switch was operated to Arm position. Since the pull-out switches and the Arm Baros were also closed, the inverters started and the X-Unit charged.

e. The T-147 DC Power Switch was placed in "off" position. This removed tester power from the relays K3 and K4 and allowed them to see ground through the monitor lights in the tester in parallel. The resultant current flow was sufficient to close the firing relays K3 and K4 which in turn closed the fire switch, dumping the X-Unit charge into the dets.

Accident #6: (C)

During aircraft loading of a live Mk 7 Mod 3 Weapon, a loading crew used a suspension system lug of improper length. In screwing down the lug, the number 19 detonator was crushed due to excessive length of the lug. No detonation or fire occurred.

Accident #7: (C)

On three occasions, aircraft have crashed and burned with live weapons aboard with the following results in each crash:

a. Weapon explosives were broken up and partially burned. No major detonations occurred.

b. Weapon detonated upon impact.

c. Weapon detonated as a result of aircraft fire.

Accident #8: (C)

A missile was lost as a result of accidental actuation of the fire switch in the chase aircraft. The missile had been launched and was being accompanied to target by a chase aircraft. As the missile approached the target, the pilot of the chase aircraft proceeded to transmit a standby radio signal to other aircraft and ships in the area. In doing this, the pilot accidentally threw the remote firing switch and the warhead was detonated prematurely.

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Accident #9: (S)

An aircraft crashed into a storage bunker containing WR Mk 6 Weapons. The aircraft penetrated the bunker and impacted one of the weapons pushing it into two others. A fire resulted whi was successfully extinguished. The weapons were severely damaged but no burning or detonation of the explosives components resulted.

Accident #10: (CRD)

A live Mk 17 Weapon was loaded aboard an aircraft by an MA-1 Lift. The aircraft taxied t take-off position where normal operating and preflight checks were made. The manual U-2 Lock Pin was removed by the co-observer. Approximately four minutes later, the weapon released through the closed bomb bay doors and came to rest under the aircraft. The investigation reveale faulty insulation in the wiring system at station eight and a faulty pneumatic safety switch. The w on was damaged internally and retired from the OST program.

Accident #11: (S)

A live weapon was salvoed from a parked aircraft. The weapon was extensively damaged. fire or detonation occurred.

Accident #12: (S)

During loading of a live Mk 6 Weapon into a C-124 Aircraft, the hoist ran beyond the limit of lift twisting off the sprocket. The weapon fell to the ground and was severely damaged.

Accident #13: (S)

During loading of a Mk 6 Weapon onto a C-124 Aircraft, the weapon fell from the elevator platform of the C-124 Aircraft. The weapon was extensively damaged. No fire or detonation occu red.

Accident #14: (S)

A live Mk 21 Weapon was being elevated into the bomb bay of an aircraft by means of a Boein "Running W" Hoist. Shortly after the weapon had entered the bomb bay, the chain on the left side o the hoist broke at link number 18 from the dead man end of the hoist beam. The weapon fell to the ground and was damaged internally and externally.

Accident #15: (S)

A Mk 4 Mod 2 Weapon in a Beta Crate was being transported on a 40-foot float. During a right turn, the right rear wheels of the trailer ran into a culvert causing the weapon to fall from th trailer and land upside down in a ditch. The weapon was severely damaged. No fire or detonation occurred.

Accident #16: (S)

A WR Mk 6 Weapon in a Beta Crate was loaded on the forward section of a flatbed trailer. Du ing a turn, the unit slid sideways, snapping the securing chains, and fell from the trailer. One det onator, miscellaneous hardware, and the Beta Crate were badly damaged.

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Accident #17: (C)

An inert TX21 Weapon was dropped from an aircraft during a development test. The parachute failed to function properly and the weapon fell on a tennis court near a populated area of a ZI test facility.

Accident #18: (C)

A Mk 15 Mod 0 Weapon was accidentally salvoed from the bomb bay of an aircraft during an unloading operation. A crew member, who had been on a 22-hour mission, inadvertently hit the bomb release instead of the bomb bay door actuating lever. Afterbody and fins severely damaged. No fire or detonation.

Accident #19: (C)

A Mk 15 Mod 0 Weapon was jettisoned in 100 feet of water following a mid-air crash of two aircraft. No fire or detonation. Efforts to effect recovery of the weapon had been unsuccessful up to the date of this publication.

Accident #20: (C)

One case of 1E23 Detonators was damaged by an unknown object apparently dropped on the case. Detonators were rejected for use on DOD weapons. No fire or detonation.

Accident #21: (C)

An aircraft carrying an inert Mk 7 Mod 5 Weapon crashed on take-off. The weapon was lost in deep water. No fire or explosion.

Accident #22: (CRD)

A Mk 39 Weapon was accidentally dropped from the bomb bay of an aircraft during ground run-up of the aircraft. Cause of the drop is determined to be too much tension on the emergency release cable. The front of the MC-675 Warhead Subassembly was damaged by the movement of the squash which was torn loose from its support. Extensive damage resulted to the bomb case and fin assembly. (b)(3):42 USC 2162(a) (b)(3):42 USC No fire or detonation. DOE b(3)

Accident #23: (CRD)

(b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) The weapon burned approximately four hours with two low order detonations. All major components were severely damaged or charred. (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) The capsule in the M-102 Case was intact but slightly damaged by heat. DOE b(3) DOE b(3)

Accident #24: (CRD)

The landing gear of an aircraft carrying a (b)(3):42 USC 2162(a) Bomb collapsed while taxiing, causing the aircraft to break apart and burn. The bomb, with the capsule in the IFI (retracted position), did DTRA b(3)

not detonate but was destroyed by fire. The capsule apparently melted and settled into the molt slag and metal of the burned aircraft and bomb. The molten slag and metal was heavily contam nated. Unburned debris of the aircraft and bomb were found to be contaminated. The area ove which the smoke cloud passed, to a distance of one mile downwind from the accident, revealed ligible contamination which required no decontamination. The asphalt runway was contaminated quiring disposal by burying. Off-base Explosive Ordnance Demolition personnel inspecting the cident scene apparently picked up alpha particles on their shoes and clothing from the dust on th ground. This contamination was subsequently spread to their automobile and carried back to ar of their home base. However, contamination received by those individuals was considered to be well below current health hazard standards.

Accident #25: (C)

(b)(3):42 USC 2162(Bomb was accidentally jettisoned from an aircraft during a routine mission. The cause of the jettison and the release altitude was not known at this time. The bomb detonated up impact. Extensive damage to civilian property and injury to civilian personnel was inflicted by t blast of the exploding bomb.

DTRA 6(3)

Accident #26: (C)

The number 91 detonator on a W-7 Warhead was crushed while installing the fire set. No fire or detonation.

Accident #27: (~~CRD~~)

(b)(3):42 USC 2162 Bomb was accidentally jettisoned from an aircraft during a routine mission. The primary detonated on impact. The squash was slightly damaged but remained intact.

DTRA 6(3)

Accident #28: (C)

The MC-321 Ballistic Nose Case Section of a Mk 5 Mod 3 Bomb was punctured during handli operations.

Accident #29: (~~CRD~~)

(b)(3):42 USC 2162(a) Warhead was damaged as a result of falling during handling operations. Extensive damage resulted to the automatic in-flight insertion mechanism, MC-79 Electrical Connector Assembly, core charge and the high explosive sphere and case. No fire or detonation.

DTRA 6(3)

Accident #30: (~~SRD~~)

1. A B-47 Aircraft caught fire with (b)(3):42 USC 2162(a) Bomb aboard when the ATO bottles accidentally discharged during the pilot's acceptance check. Firefighting efforts began quickly, but were abandoned when the fire engulfed the bomb bay. A minor explosion of undetermined origin wi observed during the burning.

DTRA 6(3)

2. The weapon case and all components were completely destroyed in the fire except (b)(3):42 USC 2162(a) After the residue had cooled, the area was monitored for alpha and gamma radiation. Approximately 750 counts per minute (alpha) were detected at the location where the primary had burned. No other alpha contamination was detected outside of the immediate location.

DTRA 6(3) (b)(3):42 USC 216

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Accident #31: (~~SRD~~)

A B-47 Aircraft caught fire during takeoff with (b)(3):42 USC 2162(a) aboard due to a faulty ATO bottle. The aircraft crashed from an altitude of approximately 1500 feet. A "one-point" detonation of the weapon primary occurred upon impact, causing a crater approximately 35 feet in diameter by six-feet deep. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

Accident #32: (~~CRD~~)

A fighter type aircraft carrying a Type 3 (Training) Mk 7 Weapon crashed into a barrier stanchion drag strut during an aborted takeoff and burst into flame. The weapon was extensively damaged. Post-accident inspection indicated that the dummy capsule had broken away from the trap door plug at the E-1 Ring clamping junction and the capsule ball was found inside the weapon pit.

Accident #33: (~~CRD~~)

The jet blast from an aircraft hurled a crash kit weighing 300 pounds against a Mk 1 Mod 0 War Reserve 30.5 inch Rocket (Boar). The weapon skin was penetrated near station 37, resulting in a 4-1/2 X 5-1/2 inch hole in the skin. The plastic head of detonator (b)(3):42 USC 2162(was cracked and the high explosives sphere received a 1/4-inch deep by 1-1/2 inch diameter dent.

Accident #34: (~~SRD~~)

1. During an assembly operation involving a M22A1 Demolition Firing Device (DFD) and an explosively inert Mk 7 Training Bomb, the bridge wires of the bomb were blown. When the first safing wire was removed from the DFD, the motor generators started. The second safing wire was not removed and the assembly technicians remained in position until the power supplies had completely discharged. Disassembly of the bomb revealed that the bridge wires of all detonators had blown.

2. The cause of the incident was attributed to a malfunction of the M22A1 DFD. The DFD contains two screws that lock the timer contacts in a position that corresponds to the dial setting. These screws had become loose and the timer contacts remained closed regardless of the dial indication.

Accident #35: (~~CRD~~)

1. Three fuel tanks were jettisoned from a parked fighter type aircraft with (b)(3):42 USC 2162(a) Bomb mounted on pylons. One tank ruptured and the fuel ignited. As a result of the ensuing fire, the aircraft was severely damaged and the bomb suffered damage as follows:

a. Forward Section of the Forward Case Assembly melted and fell off.

b. Bottom portions of the Side Panels had melted away exposing the detonators

c. Some detonators showed fire damage.

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2. The sphere case was intact and no fire damage to the explosives components was noted.

Accident #36: (CRD)

1. During the assembly of a Nike-Hercules Warhead Section, the XM75 Adaption Kit was assembled to the warhead and the warhead installation was connected to a T-229 Tester using Cab W6H.

2. Cable W6H, equipped with a male plug was connected to receptacle J-4, also a male plug of the T-229 Tester by mistake. When the test was made, trouble was indicated in the warhead continuity circuit. The T-229 was disconnected and the XM75 Adaption Kit removed from the warhead. A T-304A continuity check was performed and the W-31 continuity loop was found to be open.

3. Investigation revealed that one bank of thermal batteries had fired.

Accident #37: (C)

While lifting a nuclear capsule and trap door plug assembly preparatory to placing the assembly in the H-117A, IFI guide tube, the capsule assembly became detached from the trap door plug and fell approximately eight inches to a concrete surface. The support cylinder was bent out of round for approximately 1-1/2 inches along the circumference of the seating surface. The cause of this accident has not been established.

Accident #38: (CRD)

During servicing of the starter air storage bottle of a fighter type aircraft, the bottle exploded, hurling metal fragments into the forward case of a Mk 7 Mod 4, Type 3, Training Bomb. Damage was confined to the forward case and included cutting of the impact crystal cables.

Accident #39: (CRD)

1. This accident involved exposure to a fire of the following items:

a. 1 each - T-4 ADM (War Reserve).

b. 1 each - 992TZ (Training).

c. 1 each - 992PZ (Training).

d. 1 each - H-205 Core Stand.

2. The fire originated in a faulty heating unit in a storage building and ignited a quantity of 762 mm. rocket motors. The intense heat from the burning rocket motors caused the following damage to the above items:

a. The T-4 explosives burned and the metal parts were subjected to intense heat.

b. The M-102 Carrying Cases were discolored by the heat, but the training nuclear components were not damaged.

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c. Cushioning materials of the H-205 were burned.

Accident #40: (~~CRD~~)

Loss of engine power during take-off caused the crash and subsequent burning of a cargo type aircraft with three (b)(3):42 USC 2162(a) Weapons aboard. One bomb burned completely except for the squash. No detonation occurred. Parachutes of the other two weapons were partially burned.

Accident #41: (C)

A Mk 28 OST Bomb was inadvertently released from an aircraft during flight when external fuel tanks were dropped. The bomb dropped into deep water in safe condition. The bomb has not been recovered, therefore, no assessment of damage can be made.

Accident #42: (~~CRD~~)

An oil fire aboard an aircraft carrier required preventive flooding of an adjacent compartment containing nuclear weapons and components. The following items suffered salt water damage: (b)(3):42 USC 2162(a) one Mk 7 Training Weapon and all associated test equipment. (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) nuclear components were removed from the compartment prior to flooding.

Accident #43: (~~SRD~~)

A KC-135 Tanker Aircraft and a B-52 Bomber with two (b)(3):42 USC 2162(a) Bombs aboard collided in midair during a refueling operation. The B-52 Bomber impacted the ground with the bombs aboard. The bombs were thrown clear of the aircraft wreckage and came to rest approximately 20-feet from the point of initial impact. The bombs did not detonate or burn and appeared to have suffered little external damage except for the afterbodies which were torn off. However, extreme internal damage occurred (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) (b)(3):42 Successful recovery and disposition of all bomb components, including damaged high explosives, was made.

Incident #1: (C)

An N-1 Dolly with a live Mk 6 Weapon aboard was being towed by a 2-1/2 ton 6 X 6 truck. The N-1 Dolly broke away from the tow vehicle, turned into the hillside, and came to rest in a ditch without overturning. Had the dolly turned in the opposite direction, it would have plunged over a steep embankment. Breakaway was due to the inherent weak linkage between the tongue and chassis of the N-1 Dolly. The weapon was dented slightly. No fire or detonation occurred. Five similar incidents involving a Mk 6 Weapon and an N-1 Dolly have occurred.

Incident #2: (C)

A War Reserve Mk 12 Weapon was being transferred from ship to ship in rough seas. The weapon was suspended from a hawser by a hook without a keeper. The hawser suddenly developed slack and the weapon was lowered into the water. Upon contact with the water, the weapon became detached from the hook and floated in rough seas until recovered. Approximately one pint of water was found in the weapon case. No appreciable damage was incurred.

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Incident #3: (S)

During off-loading of a Mk 15 Training Weapon from a flatbed trailer, the brake assembly of the 20 Ton Hanson Crane did not hold. The weapon was dropped approximately three feet to the con crete pavement. No external damage was observed.

Incident #4: (U)

Bomb explosive castings were being loaded onto a flatbed trailer. Due to improper operation of a fork lift, 16 boxes of castings were pushed off the trailer bed. No detonation or fire occurred. Boxes and castings were slightly damaged.

Incident #5: (S)

During loading of a Mk 7 Mod 4E Weapon onto a C-124 Aircraft, the hand grips on the vapor barrier failed, the unit rolled approximately four feet and crashed into a bulkhead of the aircraft. The weapon was slightly damaged.

Incident #6: (S)

A Mk 6 Weapon was parked on an unlighted road at night awaiting a convoy movement. A truc hit the left front of the N-1 Dolly breaking the wheel from its axle. The weapon was not damaged.

Incident #7: (S)

An H-249A containing a Mk 12 Mod 0 Bomb was being towed in a turn with the right rear caster assembly locked and the left rear caster assembly unlocked. The H-249 swerved to the left and overturned. The weapon was undamaged.

Incident #8: (CRD)

Three Mk 12 Mod 1E and two Mk 7 Mod 4E Weapons broke loose from their tie down positions Five weapon containers were severely damaged, requiring repair or rework. No fire or detonation

Incident #9: (SRD)

1. During the air transport of six Mk 28 Weapons, the T-290A Air Sampler alarmed. The crew compartment was immediately monitored using this same T-290A, but no tritium was detected. The cargo compartment was remonitored and again the T-290A alarmed. This alarm lasted for approximately five minutes. Further indications or readings could not be obtained after the air sampler ceased to alarm. True intensity readings were not indicated as the T-290A was not operated through the full three scale range.

2. Upon reaching its destination, the aircraft and crew members were monitored for residua alpha, beta, and other type radiation hazards. In addition, the aircraft was remonitored with a T-290 for possible presence of tritium. All results were negative. Urinalysis tests of the crew members were also negative. Post inspections and tests made of the T-290A Air Sampler by cognizant authorities revealed that the air sampler was defective.

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Incident #10: (~~CRD~~)

Inspection of an alert aircraft with a Mk 39Y1 Mod 1 Weapon aboard revealed that the MC-282 Arming Rods and the CF-1300 Pull-Out Cable had been extracted to a point where the red wing was visible. Measurements from the bearing surface of the "D" ring to the top surface of the valve housing was 3.5 inches. The CF-1300 Pull-Out Cable was completely extracted. The Arm-Safe switch was in the safe position. Arming rods were not extracted and the safing clip was properly inserted. Cause of the incident is unknown.

Incident #11: (U)

Battery pigtails of an MC-193 were pinched when the battery box cover was closed, causing a short circuit. The corners of each cell case were burned and melted.

Incident #12: (C)

A Mk 36 Mod 1 Training Bomb with an H-423 Bolster was being loaded in a B-47 Aircraft. After the bomb had contacted the four sway brace pads and the chain sling was about to be connected to the U-2 Release Rack, the right rear beam positioning link retaining pin and the right front beam positioning link retaining pin snapped, allowing the weapon and bolster to fall to the ground. The weapon fins were damaged and the bolster was sprung.

Incident #13: (C)

During movement of an MB-1 Rocket from one storage cell to another, the rocket fell from the MB-1 storage pallet. The underside of the W-25 outer case was dented.

Incident #14: (C)

A Mk 5 Mod 0 Weapon containing high explosives but no detonators, nuclear capsule or fuze, was dropped approximately 21 inches during removal from an 18,000 pound elevator. The spring loaded pins in the 8,000 pound bi-rail hoist lower adapter assembly were not fully engaged, permitting the lower adapter to fall free when the weapon was rotated during handling. The weapon case was dented 3-1/2 inches deep over a 16 X 10 inch area at five o'clock station 28.

Incident #15: (~~CFRD~~)

1. Six Mk 49Y1 Warheads were being moved on a 40-foot float from a railhead to a storage structure. Items were properly tied down in transit. Upon arrival at the storage structure the tie-downs were removed from all warheads.

2. One warhead was raised by a forklift causing the float bed to tilt due to unbalance. Two of the unsecured units slid off the float bed and fell to the ground. Inspection after the incident revealed external dents in the containers.

Incident #16: (C)

During transfer of an Honest John Assembly from a dolly to an H-257 Warhead Stand, the assembly was dropped an estimated three to eight inches back onto the dolly. The only damage to the assembly was a broken umbilical plug. The cause of the incident was attributed to slippage of the hoisting cable of the five-ton wrecker used for hoisting.

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Incident #17: (C)

1. A Mk 7 Mod 5 Bomb was struck by the catapult bridle during the launching of an aircraft. Post mortem storage inspection revealed the following damage to the bomb:

The MC-440 Ballistic Case Section was punctured at station 40 at approximately the five o'clock position; the bottom half was dented to a depth of 1-1/5 inches over an area 28 X 24 inches and rivets were torn out of the aft internal structure support ring.

2. No damage to the MC-360 Sphere Assembly was observed.

Incident #18: (C)

During the unloading of an XM22 Nike-Hercules Warhead Section from a tractor-trailer, a noise from inside the warhead container was heard. Preliminary inspection revealed two one-quarter inch dents on the face of the container lid. The lid was removed and it was noted that the track locking bolts were lying loose on the bottom of the container. Without the track locking bolts the warhead section was free to move back and forth within the container during shipment.

Incident #19: (~~CRD~~)

The post-load check of a Mk 39 Mod 1 Bomb indicated that the left pullout valve could be easily pulled out. Investigation revealed that the shear pin was broken. Breakage was attributed to a previous down-loading. Identical conditions have occurred on two other occasions.

Incident #20: (C)

During removal of a Nike-Hercules, Mk 31 Mod 0 Warhead, from a launcher, the erecting beam popped up, striking number four fin of the missile, causing a rotation which severed the umbilical assembly. A second incident of a similar type has occurred.

Incident #21: (C)

During buildup and disassembly of an SM-78 Nose Cone and a Mk 49 (Type 3) Warhead, an XH-4105 Hydraulic Crane tipped forward causing the warhead to strike the floor. Falling distance was approximately 3-1/2 feet. External damage to warhead was superficial. Extent of internal damage is unknown. Cause of this incident is attributed to improper positioning of the lifting beam of the hydraulic crane. Action has been taken to insert a note in appropriate manuals defining the proper position of the lifting beam.

Incident #22: (~~CRD~~)

1. When the BB401/U Batteries of a Nike-Hercules Missile (W31Y1 Warhead) were connected by joining the P-510 Cable head to the battery J510 Cable receptacle, smoke was observed coming from the warhead section access door. Inspection, after the battery cable was disconnected, revealed damage to the BB401/U batteries and cables.

2. Detailed inspection after the incident revealed the following:

a. No warhead or AK fusing or firing components were actuated.

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b. Battery BB401/U was destroyed.

c. Cable W6F was destroyed.

d. Vinyl sleeve of the W5F Cable was charred.

e. Position six of switch S3 of MC-742 Cartridge Assembly was damaged.

f. The electric J-box was scorched.

3. It is apparent that the cause of this incident was the failure to use the plastic dust caps provided for the cable assembly with the result that an electrical short occurred across the connector pins of the battery trickle charge circuit.

Incident #23: (C)

1. A WR 30.5" Rocket Mk 1 Mod 0 was severely damaged when a ship-board elevator was raised instead of lowered. This caused the weapon to collide with the closed elevator hatch at flight deck level.

2. Damage to rocket was as follows:

a. Rocket case was badly dented.

b. Metal was torn in areas where the rocket case was resting on the after decks of the AERO 6A Cradle in the AERO 23B Bomb Truck.

c. A small piece of aluminum was cut from the case above the stiffener ring immediately forward of the forward loading lug.

d. The fuse assembly was dented and scratched in six locations.

3. No damage to the warhead was observed.

Incident #24: (C)

1. A warhead section XM22, Mk 31Y1 was damaged when the missile handling segment failed causing the missile to fall during the joining operation.

2. The missile "Z" skin was damaged. Preliminary investigation indicates that damage to the warhead section was slight.

Incident #25: (C)

During the practice loading of a Mk 36 Mod 1 Bomb, a crack was observed in the weld of the H-24B Bolster lug which accepts the MB-1 Hoist clevis. Downloading was accomplished without incident. The probable cause of the crack was attributed to faulty welding of the lug to the main support rib of the adapter assembly.

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Incident #26: (C)

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

Cause of this incident in unknown.

Incident #27: (C)

1. During return from an operation, a Mk 39 Mod 0 Bomb slipped from the straddle carrier. The weapon rolled 43 feet and stopped when it struck a curved curbing.

2. The right rear caster pan of the H-508 Bolster was damaged by impact with the curb. The weapon was not damaged.

3. Cause of this incident was attributed to rough terrain features which caused the lug lock to release.

Incident #28: (C)

A Mk 28 Weapon (WR) was being loaded on a F-100D Aircraft. While the sway braces were being torqued, the weapon with dolly attached fell from the pylon. The weapon was not damaged. Investigation revealed that although visual inspection indicated a positive lock, the ground safety pin could be improperly positioned. A Technical Order change has been published altering the sequence of operations to preclude future incidents of this type.

Incident #29: (C)

During transport of a WR Mk 15 Mod 2 Bomb by straddle carrier, the bomb was dropped 18 inches to a concrete ramp as the carrier was making a turn. Both casters on left side of the bolster a bomb fin, and the security cover frame were damaged. The cause of the incident is under investigation.

Incident #30: (S)

During preflight, the dive brake of a F-100D Aircraft was inadvertently lowered, causing damage to the MC-711 Fuse Unit of a Mk 28 Bomb mounted on the centerline pylon of the aircraft. Cause of the incident has been tentatively determined to be a malfunction of the brake interlock switch on the pylon.

Incident #31: (S)

During erection for command calibration of a Nike-Hercules (W31) Missile, the missile-booster combination settled down approximately two inches. As a result of this settling, the "T" lug disengaged from its slot in the forward yoke assembly, freeing the upper part of the missile from the launcher rail. The missile was secured to its rail by ropes to prevent further separation from the booster which was breaking up due to severe stress, and the missile was returned to a horizontal position. Settling of the missile was caused by mechanical failure of the portion of the booster fin fairing assembly which sustains the weight of the missile-booster combination in the elevated position. The fairing cracked 3/4 of its length. Shearing and shorting of the umbilical assembly as the missile settled rearward caused burn-out of the W6F Cable.

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Incident #32: (C)

During removal of a Nike-Hercules Missile from the launcher, the erection beam snapped up hitting the missile. One fin was damaged and the umbilical assembly was severed. On four other occasions erection beam pop-ups have caused similar damage to missiles. Exact cause of the pop-ups and the remedial action to be taken are unknown at this time.

Incident #33: (S)

During upload-preflight check of an F-89J Aircraft loaded with two MB-1 Rockets, an armament technician was making heater blanket temperature settings of the rocket on the right pylon. When the armament technician switched the aircraft inverter switch to the "ON" position, the forward jettisoning bolt fired releasing the rocket. The nose cone and motor were extensively damaged. Visual inspection indicated that the warhead was not damaged.

Incident #34: (S)

A test shape 43-1F was loaded on a Type VII centerline pylon on a F-100D Aircraft using an MJ-1 Bomb Lift. The bomb rack was properly locked and the ground safing pin inserted. Sway brace pads were tightened and the bomb lift removed. During inspection of the installation, when a technician put his hand on the side of the pylon, the rack released dropping the shape approximately ten inches to the ground. Cause of the incident is believed to be a faulty locking mechanism.

Incident #35: (C)

During processing of a Mk 6 Mod 6, a four-inch long tear in the left rear cone was discovered. No cause for the incident has been discovered.

Incident #36: (S)

During downloading of a Mk 39Y1 Bomb from a B-47 Aircraft, the pullout valve and shackle assembly were accidently removed. When the pullout cover protective assembly was installed, the clevis pin and retainer cable assembly, although disconnected, was inadvertently left under it. When the bomb was lowered, the safety pin caught on the pullout valve shackle assembly and pulled it out.

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3 Accidents and Incidents During the Period 1 December 1959 through 29 February 1960

Accident #1: (~~CRD~~)

1. During an Operational Readiness Manuever, an A4D-2 Aircraft departed from an aircra carrier to deliver a Mk 7 Weapon to a land based ammunition depot. Personnel at the depot, in th course of a final assembly test, discovered approximately two gallons of JP5 fuel in the bottom of the weapon case.

2. The fuel was removed and inspection revealed that cables and IFI limit switches were fuel saturated and fuel was present under the high explosives sphere case and in the tail of the wea on. The fuze, fire sets, radars, etc., were not affected.

3. No storage inspection was performed because of the possible hazard due to arcing during electrical tests.

4. Investigation showed that a fuel leak was present in the aircraft. The leak was located i the Aero 7A Bomb Fuel Transfer Valve coupling.

5. The cause of the fuel leak was found to be an error made when the center line fuel tank was removed. When the tank was removed, the centerline fuel transfer valve should have been capped with a plug to preclude leakage and entry of foreign matter.

6. The rate of fuel leakage from the transfer valve was quite slow and not discernible to a casual observer; however, over a 16 hour period, the weapon had accumulated the amount of fuel which was discovered.

7. Due to the hazard which could exist because of the possible presence of fuel in the electri cal system of the weapon, it was returned to AEC custody for closer examination and disposition.

8. Immediate corrective action was taken to preclude recurrence of identical accidents as follows:

a. Plugs have been requisitioned for all aircraft.

b. Procedures have been established to require a check for presence of the plugs prior to weapon loading.

Accident #2: (~~CRD~~)

1. During a storage inspection of a Mk 7 Mod 1-E Warhead, number 91 detonator was obser to be severely damaged as follows:

a. Wire assembly was crushed.

b. Leads from the sidearm to the bridge wire were severed.

c. Large pieces of the wire assembly were chipped off and missing.

d. The damaged detonator was removed, packaged, and replaced by a new detonator.

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2. It has been determined that the damage to the detonator was sustained during the trial fit of the fuze and fire set. The direct cause is believed to be the misplacement of the electrical connector of the impact crystal cable during the mating operation.

3. No specific corrective action was recommended since the Technical Publication procedures are adequate.

Accident #3: ~~(CRD)~~

(b)(3):42 USC 2162(a)

1.

(b)(3):42 USC 2162

DOE (b)(3)

2. Cause of the damage is believed to be lack of care by personnel during installation of the warhead container cover. Technical Publications prescribe manual installation of the cover by four technicians. Due to the close clearance between the sphere and the container cover, extreme care must be exercised to prevent contact between the cover and adjacent detonators.

Incident #1: (C)

1. A Mk 1 Boar Training Weapon with a W7 Warhead was loaded aboard an AD Aircraft during a training exercise. After the loading was completed and the post-load checks had been made, the loading crew prepared to unload the weapon.

2. Sound powered telephones had been used in the loading, check out, and post-load operations but were not used in the unloading operation.

3. Due to misinterpretation of hand signals, the crew member in the aircraft cockpit released the weapon by actuating the manual release handle. The weapon fell approximately four inches onto the bomb truck.

4. Damage to the weapon consisted of four dents in the midsection skin and sheared rivets in the same areas. There was no damage to internal components of the weapon which successfully passed all assembly tests.

5. The following recommendations to prevent recurrence of such incidents have been made:

a. Discontinuance of the use of hand signals during loading and unloading operations.

b. Adoption of sound powered telephones for communication during all phases of similar operations.

Incident #2: (C)

1. In connection with the loading of a Mk 15 Mod 2 WR Bomb aboard a C-124 Aircraft, all cables, safety pins, pulleys, etc. of the hoisting mechanism were thoroughly checked by the loading crew. The hoist operator lifted the bomb to a height of about six inches where it was stopped and the components of the hoist were again checked and found to be in satisfactory condition.

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2. The hoisting was again started and as the load began to raise, a grinding noise was hear and the load was stopped at a height of about 18 inches from the ground. It was observed at this time that one of the rear cables was fraying. The load was immediately lowered, but the frayed cable broke when the cargo was about eight to 12 inches from the ground. The rear corner of the load dropped but did not hit the ground. The cargo was lowered the remainder of the distance to t ground without further incident and the weapon was not damaged.

3. The cause of the incident is attributed to slipping of the hoist cable from the pulley groov with resultant cutting of the cable by friction.

4. Modification of the pulley concerned has been suggested as a preventative measure. The modification would consist of extending the pulley groove.

Incident #3: (C)

1. Mk 7 Mod 5E WR Bombs in H-65 Roadable Containers were stored on shipboard in the same hold with 10 general purpose, 2,000-pound dummy bombs. The ship encountered rough seas and took some hard rolls which caused seven of the 10 dummy bombs to tear loose from their cribbing.

2. Two of the dummy bombs apparently collided with the two H-65C Containers causing dam age to the front and rear vapor barriers. Visual inspection indicated no damage to the weapons within the containers.

3. Action to prevent recurrence of this type of incident has been recommended as follows:

a. No material, other than atomic weapons material, will be stored in the same space with atomic weapons.

b. Weapons storage spaces should be inspected hourly.

Incident #4: ~~(CFRD)~~

1. One of seven Mk 40Y1 WR Warheads in H-522 Containers was being unloaded from a 6 X 6 truck by a 2,000-pound Clark "Clipper" Electric Forklift. As the container was being raised by th forklift, it slipped from the tines and fell against an adjacent H-522. The latter container was dent ed, but the warhead was not damaged. No damage was sustained by the container and warhead whic fell.

2. In lifting the H-522, a unique procedure was employed; the tines of the forklift were spre apart and the container wedged between them. This method was employed because of the reported instability of the H-522 when the fork lift tines are placed between the container skids in the conven tional manner.

3. The cause of this incident is attributed to the use of improper and/or improvised handling techniques.

4. Conclusion: Incidents of this type can be prevented in the future by the use of slings or pallets and the employment of standard handling procedures.

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Incident #5: ~~(SFRD)~~

1. Six Mk 7 Warhead components were being transported by van during a maneuver. The driver dozed at the wheel of the van and lost control. The van ran off the road and overturned.

2. Inspection by EOD personnel revealed no damage to the containers which were transferred to another vehicle and allowed to continue.

3. The cause of this incident and the corrective action to be taken need no discussion.

Incident #6: ~~(C)~~

A Mk 28 Mod 0 WR Bomb was loaded aboard an F-100 Aircraft. When the aircraft was started for a maintenance run up the speed brake came down and contacted the weapon. Visual inspection revealed no damage to the weapon which was placed in RED status pending complete inspection.

Incident #7: ~~(C)~~

1. This incident involved an XM22 Warhead Section with a Mk 31 Warhead in a Nike Hercules configuration.

2. During routine test procedures with the missile in a magazine, the heaters and gyros were turned on. Smoke was observed coming from the transponder control group. Disarming procedures were immediately performed and cause of the smoke investigated.

3. It was determined that an electrical short was present in the W5F Warhead Cable.

4. When power was applied to the heaters and gyros, current was shorted through coils L1 and L2 in the transponder to ground which caused the coils to overheat and burn out.

5. Two similar incidents have occurred recently which have involved the W5F Cable.

6. As a result of the shorts in the W5F Cables, all W5F Cables are being X-rayed and hi-potted before being shipped to the assembly sites.

Incident #8: ~~(C)~~

1. A Mk 15 Mod 2 WR Bomb was being placed in a storage structure. The MF-4 Trailer on which the bomb was mounted was backed into the structure manually. An MB-4 Tug was then attached to the MF-4 Tow Bar to align the MF-4.

2. As the unit moved forward, all rivets holding the front cross beam of the trailer to the main frame sheared, permitting the entire front end group of the trailer to become detached from the frame. The trailer and bomb fell to the floor of the structure.

3. Visual inspection indicated no damage to the bomb.

4. The cause of the incident is attributed to a previous over-stressing of the units at the point of failure. Other MF-4 Trailers were inspected and evidence that units had been stressed was present.

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Incident #9: (C)

Due to heavy seas, motion of an aircraft carrier caused a forklift truck to break loose from its tie-down and crash into the tail of a Mk 28 damaging the MC-716 and MC-717.

Incident #10 - 17: (C)

Eight additional incidents were reported to Field Command, DASA during the period 1 Decem 1959 through 29 February 1960, but are not included in this summary because of their minor natur and lack of significance. These eight incidents are included in the statistical compilation which follows:

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

October 1958 through August 1959

HANDLING		STORAGE		TRANSPORTATION		OPERATIONS	
Material Handling Equipment	2	NSS	0	Air	5	Test	9
Hoist, Cranes, Elevators	9	OSS	0	Rail	1	Maintenance & Repairs	0
Manual	0	SSF	1	Truck	2	Storage Inspection	0
TOTAL	11		1		8		9

September 1959 through November 1959

HANDLING		STORAGE		TRANSPORTATION		OPERATIONS	
Material Handling Equipment	1	NSS	0	Air	6	Test	1
Hoist, Cranes, Elevators	0	OSS	0	Rail	0	Maintenance & Repairs	0
Manual	0	SSF	1	Truck	0	Storage Inspection	0
TOTAL	1		1		6		1

December 1959 through February 1960

HANDLING		STORAGE		TRANSPORTATION		OPERATIONS	
Material Handling Equipment	4	NSS	0	Air	2	Test	5
Hoist, Cranes, Elevators	2	OSS	0	Rail	1	Maintenance & Repairs	0
Manual	3	SSF	0	Truck	3	Storage Inspection	0
TOTAL	9		0		6		5

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Accidents and Incidents During the Period 1 March 1960 through 31 May 1960

Accident #1: (C)

1. A 762 mm Rocket (Honest John) with an XM57E1 Warhead (training) was being removed from the launcher to an XM329 Rocket Trailer. The unloading operation was performed using an XM26 Tripod. As the rocket was lifted from the launcher, the forward leg of the tripod unit shifted causing the rocket to hit the launcher and continue to the ground.

2. As result of the impact, the warhead section was damaged beyond repair. (b)(3):42 USC 2162 (a) detonators were crushed.

3. An unsatisfactory report has been submitted outlining the unsatisfactory characteristics of the XM26 Tripod Unit for use on uneven terrain. Use of the M-62 Wrecker has been recommended for this type of operation.

Accident #2: (~~CRD~~)

A stripped insert was being removed from a Mk 40 Mod 0Y1 Training Weapon. A hand drill was utilized to remove the locking pin and during the process, either the drill or the pin pierced the sphere case releasing pressurization. Cause of the incident was failure to use a drill-stop to prevent over-penetration of the drill.

Incident #1: (~~CRD~~)

1. During a routine operational check of a W31 Warhead mated to a Nike Hercules Missile, an erratic reading was noted on the fuse baro meter on the Launcher Control Indicator.

2. A check was made of the GE-12 Fuse Light, all cable connections, warhead safe plug, and the M30A1 Arming Device.

3. The baro meter indication moved to 10,000 when selected from the Section Operating Panel. The reading set on the fuse was 5,900. The baro reading increased when the baro meter increase-decrease switch was set for decrease and the reading decreased when the switch was set for increase. Since the warhead safe-light was green, the test was made again on another Launcher Control Indicator, and the same abnormal condition was noted. The weapon was then rendered safe and a final assembly test performed. An abnormal reading was obtained from the fuse baro check and the test was then suspended.

4. Removal of the missile nose section revealed that insulation was burned on the W6-F Cable and the wiring was fused together near the middle of the cable. Inspection revealed that the insulation had broken down within the cable causing a short. The XM75 Adaption Kit was removed and checked and the fuse baro found defective. The weapon was rejected. Checks on all equipment connected with the section involved and a complete missile check revealed no defects.

5. Cause of the malfunction has not been determined and extent of damage to the warhead, if any, is unknown.

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Incident #2: (C)

1. A Mk 28 WR Bomb was dropped nose first through a distance of 1-1/2 feet from an AERO 33C Bomb Truck. The turnbuckle on the hoist lifting adapter was extended beyond its safe thread limit to permit engagement of the weapon suspension lugs. After the weapon was lifted from the AERO 33C and was in transit to the storage compartment, the forward lifting adapter became separated allowing the nose of the weapon to drop approximately 1-1/2 feet, denting the H-569 Radome Protective Cover and possibly bending the dowel pin.

2. Corrective action consists of painting 1-5/8 inches of threads on the male portion of the turnbuckle to prevent over extension and to insure mating of a sufficient number of threads in future operations.

Incident #3: (CRD)

1. A 30.5 inch Rocket (Boar Type 3) was received from an aircraft unloading crew with the Arm/Safe Switch armed and with the pull-out pin improperly seated. The weapon was in a completely armed condition. When the pull-out cable was removed from the weapon, the motor generators started and the X-Unit charged.

2. Cause of this incident was human error. The unloading crew failed to follow appropriate check lists which require safing of the weapon prior to downloading from the aircraft.

Incident #4: (C)

A Mk 28 Mod 0Y1 Bomb was exposed to the heat of a gasoline fire resulting from inadvertent jettison and burning of a fuel tank from an aircraft. Only a small amount of fuel burned and the fire was under control at all times. No visible damage was sustained by the weapon or the aircraft.

Incident #5: (CRD)

1. On four occasions Mk 25 Warheads failed the acceptance inspection check - the DS2 Lamp failed to light during the T-304 Test. Further testing indicated that the MC-750 Arm-Safe Switch was in the armed position. The Arm-Safe Switch was stepped to the safe position using the T-284B Tester and the warheads then passed the T-304 Test.

2. It is suspected that this condition originated at the manufacturing facility and the AEC is presently examining the production tester to determine the cause.

3. This condition degrades safety in that one of the four major events needed to fire the warhead has occurred.

Incident #6: (C)

1. During downloading of an MB-1 Rocket (Mk 25 Mod 0 Warhead) from an F-101B Aircraft, MF-9 Trailer Hydraulic Pressure was released to lower the MF-9 Lift. The lift continued to descend after the valve was closed with the result that both ballistic initiators were fired.

2. Cause of this incident is attributed to a faulty hydraulic system of the MF-9 Trailer.

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Incident #7: (U)

1. An XM22E1 Warhead Section in an XM401 Container was being moved by a forklift. During a turn the container slid forward, fell from the forklift, and rolled onto its side. Neither the XM22E1 or the XM401 were damaged.

2. The cause of this incident is attributed to improper positioning of the XM401 on the forks and an excessively sharp turn by the forklift.

Incident #8: (U)

1. Due to improper positioning of the motor section of an MB-1 Rocket on its cradle, a tear in the rocket motor occurred. This tear was caused by the fact that the chock upon which the rear portion of the rocket rests was not aligned with the properly stressed portion of the case.

2. The condition was aggravated by transporting the rocket over rough roads.

3. Improper positioning of the rocket on its cradle was caused by improper marking of the rocket motor section.

4. An unsatisfactory report has been submitted on the improper marking for cradle positioning.

Incident #9: (U)

1. During transport of an MB-1 Rocket by MF-9 Trailer, the rocket shifted approximately six inches rearward. The rocket tilted downward with the nose cone of the rocket resting on the rear hitch. The nose cone sustained no serious damage.

2. The cause of this incident is attributed to rough road conditions which caused momentary shifting of the rocket. This shifting caused loss of tension on the forward travel strap permitting the strap to become disengaged.

Incident #10 - 11: (C)

1. A Nike Hercules Missile with an XM23 (Mk 31 Mod 0Y2) Warhead was being removed from a launcher when the launcher erecting beam popped up damaging the number three fin, shearing the umbilical assembly and bending the forward yoke support T-Clamp. Visual and electrical testing indicated no damage to the warhead.

2. This incident was caused by failure to open the equilibrator by-pass valve thus permitting sufficient pressure to remain in the equilibrator system to cause the erecting beam to pop-up when the missile and rail were removed from the beam.

3. Corrective action has been taken to replace the existing equilibrator valves with four-way relief valves.

4. A similar incident occurred at another location during this reporting period.

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Incident #12: (C)

4

1. A Mk 5 Mod 0 Warhead installed on a TM61 Missile (Matador) was mounted on a launcher during a training exercise. Absence of 28 volts DC was observed. When the circuit breaker on the launcher control panel was reset, smoke arose from the launcher wiring and the T-130 Tester.

2. Inspection showed that wire W79 from the ground post to pin A of receptacle J-1 for the CT-101 was damaged.

3. A final assembly test and continuity check of three detonators indicated that the warhead was not damaged.

4. The cause of this incident is unknown.

Incident #13: (C)

1. During the operation of separating a Nike-Hercules Missile from its booster cables, the J-510 Cable within the missile was not disconnected prior to disconnecting J-104 and J-105 of the umbilical cable. This resulted in shorting of the 28 volt battery leads within the J-104 and J-105. This short caused burning of the W6F Cable.

2. Cause of this incident was employment of improper procedures.

Incident #14: (SRD)

1. During loading of an XM48 (Honest John) Warhead Section on an M-126 Trailer using an electric overhead seven-ton crane, the sling ring slipped from the crane hook causing one end of the container to drop approximately 5-1/2 feet.

2. Appropriate electrical tests and visual inspection revealed no damage to the warhead. However, it was suspected that a tritium leak had occurred and the warhead has been returned to AEC custody for complete evaluation.

3. Cause of this incident was failure to use the correct sling for handling the weapon.

4. Appropriate slings are being airlifted to using organizations.

Incident #15: (C)

1. A Mk 28 Mod 0 Training Bomb was dropped during an aircraft loading exercise, when the M8 Bomb Hoist Cable snapped.

2. Damage was limited to the J-103 Plug of the bomb. Cause of the incident was failure of the bomb hoist cable.

Incident #16: (C)

A Mk 15 Mod 3 Bomb mounted on an H-343 Bolster was being positioned beneath the bomb bay of an aircraft. During positioning, the right forward caster king bolt of the bolster sheared causing the right forward bolster frame to drop to the ramp. There was no damage to the weapon.

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Incident #17: (C)

1. During a routine check of a Nike Hercules Missile, the forward yoke support pin was found to be too tight. Operating personnel then retracted the stop screw assembly bolts one quarter inch, but failed to loosen the lock nut on the T-hook assembly of the forward yoke assembly. After moving the missile to a launcher and elevating it 45 degrees, the same condition was found to exist and the stop screw assembly bolts were retracted another quarter inch. Upon elevation the booster assembly slid back and separated from the missile. The weight of the missile then caused it to slide back into the booster shearing the umbilical assembly.

2. This incident was caused by failure of personnel to perform the required procedural steps.

Incident #18: (C)

1. While off-loading a Mk 5 Mod 0 WR Warhead from a TM61C Missile (Matador), with an MC-1 Crane, the crane dropped one foot. The warhead was supported in place by operating personnel and did not drop. No damage to the warhead was sustained.

2. Cause of this incident was attributed to failure of the boom lift ram group of the MC-1 Crane. The weld connecting the boom rod body to the top "T" portion of the rod separated.

Incident #19: (C)

1. During downloading of a Mk 36 Mod 2 Weapon using a K4 Hoist, it was observed that the left hoist appeared to permit the hoist chain to run free through the hoist. Energizing the "up" button of the left hand hoist apparently had no effect and the chain continued to play out, permitting the weapon to descend slowly.

2. The right hand hoist was energized in the down position to compensate for weapon sidewise tilt until the bolster wheels reached the concrete ramp.

3. Only superficial damage to the weapon occurred.

4. Cause of the hoist failure is unknown at this time.

Incident #20: (C)

1. In preparation for general inspection of a Mk 30 Mod 0 Training Warhead, a W3H Power Cable, associated with a T-4014A/T-229 Final Assembly Tester, was connected to the T-350 Continuity Test Set. As prescribed by TP W30-1, Cable CT-1192 should have been connected instead of the W3-H Power Cable. As a result, the ground pin of the W3-H Power Cable was placed in the 115 volt AC circuit damaging the T-350 and energizing the entire ground bus of the assembly bay.

2. Failure of supervisory personnel to positively identify the correct cable and the fact that the W3-H and CT-1192 Cables are readily connected to the T-350 were causes of this incident.

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Incident #21 - 23: (C)

Three additional incidents were reported to Field Command, DASA during this period, but are not included in this summary because of their minor nature and lack of significance. These three incidents are included in the statistical compilation which follows:

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

March 1960 through May 1960

HANDLING		STORAGE		TRANSPORTATION		MECHANICAL OPERATIONS	
Material Handling Equipment (Mobile)	10	NSS	0	Logistical Air	1	Test	8
				Other Air	0		
Hoist, Cranes, Elevators (fixed)	4	OSS	0	Rail	0	Maintenance & Repairs	0
Manual	0	SSF	0	Truck	1	Storage Inspection	1
TOTAL	14		0		2		9

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Accidents and Incidents During the Period 1 June 1960 through 31 August 1960

Accident #1: ~~(S)~~

During a logistical movement by shipboard elevator, a Mk 27 WR Bomb was dropped resulting in extensive damage to the nose and rear case sections. Part of the bomb was resting on the elevator and part on the deck. When the elevator raised, the bomb tilted and fell from the elevator. Cause of the accident was attributed to inoperable elevator interlocks.

Accident #2: (~~SRD~~)

1. This accident occurred on 7 June 1960 in Shelter 3-4, 46th Air Defense Missile Squadron (BOMARC), McGuire Air Force Base, New Jersey.

2. A fire, suspected to have been caused by a defective high pressure helium container, originated in the aft section of a BOMARC IM-99A Missile containing a Mk 40Y1, Alt 201 Warhead.

3. All high explosives components of the warhead burned and the pit material melted and mixed with a large quantity of ash on the shelter floor. The battery pack, firing set, interconnecting box, X-unit, and neutron generator were badly damaged. The tritium reservoir was found intact and appeared to be in good condition.

4. Alpha contamination of 2-million counts per minute was detected on the shelter floor and the road adjacent to the shelter. Contamination on the road was due to run-off of water used in fire fighting. Run-off water flowed into a drainage ditch about 300-feet from the launch shelter and was absorbed by the sandy soil.

5. Contaminated surfaces inside the shelter and on the road were covered by a thick layer of paint which reduced the reading to near zero.

6. Contaminated soil was plowed under and a dam was constructed to prevent water run-off.

7. Final decontamination will consist of pouring approximately two inches of concrete onto the contaminated areas.

8. The tritium reservoir was placed in a plastic bag which was then placed in a sealed can. This can was placed in a second plastic bag which was placed in a larger sealed can and shipped to the AEC.

Incident #1: (~~SRD~~)

1. The weapons space aboard an aircraft carrier was flooded to a depth of 2-3 feet with salt water as a result of a ruptured firemain.

2. The weapon damage was as follows:

a. (b)(3):42 USC 2162(a)

b. (b)(3):42 USC 2162(a)

DTRA b(3)

c. (b)(3):42 USC 2162(a)

d. (b)(3):42 USC 2162(a)

PTRA b(3)

e. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

3. The Mk 28 Weapons involved in this incident were inspected by the AEC to determine the following:

a. Safety of handling.

b. Degradation of reliability.

c. Acceptability of weapons as WR.

4. Detailed inspections of these weapons were made by AEC contractor personnel and all Mk 28's were found to be unacceptable as WR.

5. Unsealed electromechanical components suffered the greatest damage. MC-543 Internal Timers and MC-852 Motor Generators were not repairable. MC-691 Differential Pressure Switche and MC-938 Velocity Pressure Switches may have suffered contact and element contamination due t rust and corrosion caused by salt water atmosphere entering the manifolds and switch housings. Co rosion and rust were present in and on connectors, cadmium plated parts, and hardware. Water an condensation were found in the majority of fuzes. Moisture had also penetrated the vinyl cable slee Over 50 percent of the MC-627 radars failed to function properly when subjected to the radar test.

6. It is concluded that:

a. Handling safety was not appreciably degraded.

b. Reliability was degraded to the extent that several weapon failures would have occurre had the weapons been used after being rinsed and dried.

7. Weapons were not acceptable into WR without extensive rework.

8. Cause - Electrolytic action between a brass nipple and a steel cap caused the cap to fail.

Incident #2: (C)

1. During a storage inspection in an assembly bay, a W25 Warhead was being separated from an MB-1 Rocket. The warhead was secured to a 1/2 ton capacity overhead chain hoist using a H-611 Warhead Hoisting Adapter and an H-612 Warhead Trunnion Band. The warhead was removed from the motor section and moved horizontally away from the motor a distance of approximately six inche by maneuvering the overhead hoist.

2. A locally fabricated stand equipped with four small casters was placed under the warhead with the chain hoist still supporting most of the warhead weight.

3. During movement of the warhead to its container, one of the casters on the safety stand struck a grounding cable causing the safety stand to tilt. This in turn caused the warhead to rise

on one side and become disconnected at one of the two suspension points attaching it to the H-611 Adapter. The warhead slid from the stand and fell approximately 22 inches, where it stopped suspended by the remaining suspension point of the H-611 Adapter.

4. The warhead was lowered into an H-490A Container without further incident.

5. Cause of this incident is attributed to dropping of the quick release type pin from its locked position in the H-611. Inspection revealed that the pin was defective due to wear.

6. An overhead grounding system to eliminate presence of cables on the floor would eliminate the primary cause of this type of incident.

Incident #3: ~~(CRD)~~

1. During off-loading of an XM22E1 Section (Mk 31 Warhead) in an XM401 Container from a commerical carrier, the XM401 was dropped to the ground.

2. A crane "cherry picker" was being used to lower the load when a cable clamp failed allowing the cable to separate permitting the container to drop.

3. Pressure and continuity checks indicated that the weapon had sustained no serious damage.

4. To preclude a recurrence of this type of incident a recommendation has been made to modify the cable clamp.

Incident #4: ~~(C)~~

A Mk 15 Mod 2 WR Bomb was being off-loaded from a C-124 Aircraft. The tail of the bomb swung under the loading well and the operator stopped the hoist. He then lowered the front end of the bomb causing the tail to raise striking the bottom of the loading well bulkhead. The upper right fin of the bomb was slightly damaged. Cause of this incident is attributed to human error.

Incident #5: ~~(C)~~

1. A Mk 39Y1 Mod 2 Bomb on an MF-4 Bomb Trailer was being towed by a 2-1/2 ton 6 X 6 truck with the trailer tongue attached to the pintle hook of the truck. A cotter pin was installed in the pintle hook lock hole, tongue safety chains were attached to the truck bumpers and additional safety chains were attached to each side of the axel yoke of the MF-4 and the truck.

2. As the truck stopped, the pintle hook opened allowing the tongue to ride over the hook and pass between the pintle hook and the truck bed. The nose of the bomb contacted the truck bumpers causing two dents in the MC-1121 Nose.

3. This incident was caused by failure of the pintle hook positive lock. With the safety pin installed, it was found that the pintle hook readily opened.

Incident #6: ~~(CRD)~~

1. During readiness maneuvers with a Mk 90 Bomb containing a dummy capsule, check lists were used to complete necessary procedures. Since drop was not to be performed, all applicable switches were turned to OFF or SAFE positions after completion of the last called for procedure.

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When the weapon was returned, the dummy capsule was found to be in the inserted position.

2. Among other functions, the pilot's control box operates the IFI mechanism on aircraft power and monitors the position of the IFI. When aircraft power is removed from the bomb, the IFI will not operate, nor will the monitor warning lights function. It is evident that the pilot omitted a key step of the abort check list, in that he failed to retract the IFI prior to removing aircraft power to the bomb. This incident is attributed to human error.

3. Corrective action taken was to further indoctrinate operating personnel in the use of check lists, completing each step in proper sequence.

Incident #7: (C)

A Mk 5 Mod 0 WR Warhead of a TM61C (matador) Missile was exposed to the hazard of a fire when a missile fuel cell ruptured. The fuel overflowed the equipment shelf, soaking the launcher and leaking into the starter-generator. The area was washed down immediately and the warhead was removed from the area.

Incident #8: (C)

1. During loading of a Mk 25 Mod 0 WR Warhead onto a 6 X 6 truck, a handler lost his balance as he attempted to slide the Mk 25 to the front of the truck. The unit tipped and fell approximately four feet from the truck to the ramp.

2. Extent of damage has not been reported.

3. Cause is attributed to handling error. One man should not attempt to move a 340-pound item.

Incident #9: (C)

1. A Mk 39Y1 Mod 2 Bomb was loaded aboard a B-47 Aircraft using a Running "W" and C-9 Hoist. The circuit breaker switches had been placed in the OFF position prior to torquing in the weapon. In preparation for downloading of the cradle when the circuit breaker switches were turned to ON position the right hoist functioned upward, and the overload switch failed to function.

2. Damage to the weapon was limited to the adapter connector for cable CF-1300.

3. Cause has been determined to be an electrical short in the hoist causing the manual control switch to be by-passed, plus failure of the overload switch to function.

Incident #10: (C)

1. A Mk 15 Mod 2 Bomb on an H-343 Container was being moved from an igloo ramp into an igloo by a 2000-pound electric tug at low speed when the retaining bolt of the left rear top plate of the caster swivel assembly of the H-343 sheared at the shoulder. As a result the bolster dropped approximately two inches onto the caster.

2. The cause of this equipment failure is attributed to inherent inability of the assembly to withstand the impact loads sustained when the bolster is moved over rough surfaces.

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3. A recommendation has been made that this type of caster be phased out and replaced with a 10-inch double wheel caster.

Incident #11: (C)

1. A Mk 39Y1 Mod 2 WR Bomb on an H-508 Trailer was being towed by a straddle carrier. The left front caster of the trailer failed and the left front caster fell to the road. The weapon was not damaged.

2. Cause of the incident is attributed to the excessive demand placed upon the H-508 Trailer which has no shock-mitigating devices other than the hard rubber tires. The H-508 was not designed for frequent hauling over distances of five-miles per trip at speeds exceeding five-miles per hour.

3. Towing the H-508 for great distances has been prohibited except under emergency conditions and towing speed has been limited to five-miles per hour.

Incident #12 - 22: (S)

Eleven additional incidents were reported to Field Command, DASA during this period, but are not included in this summary because of their minor nature and lack of significance. These eleven incidents are included in the statistical summary which follows:

STATISTICAL SUMMARY OF ACCIDENT AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 June 1960 through 31 August 1960

HANDLING		STORAGE		TRANSPORTATION		MECHANICAL OPERATIONS	
Material Handling Equipment (Mobile)	6	NSS	0	Logistical Air	3	Test	4
				Other Air	1		
Hoist, Cranes, Elevators (Fixed)	3	OSS	0	Rail	0	Maintenance & Repairs	0
Manual	3	SSF	4	Truck	0	Storage Inspection	0
TOTAL	12		4		4		4

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Accidents and Incidents During the Period 1 September 1960 through 30 November 1960

Accident #1: (~~SRD~~)

5

1. During a storage inspection of a Mk 7 Mod 5 Bomb an out-of-tolerance DCO reading on t number one detonator cable was observed.

2. The core charge, MC-124, was retracted and removed from the weapon.

3. In accordance with procedures of TP B7-3, a new MC-79 Connector Assembly was procured and installed on the IFI.

4. Upon insertion of the core charge, the ammeter indicated an excessive reading and the needle pegged when the IN lamp lighted. Power was immediately removed.

5. Power was again turned on and the IFI was retracted. An abnormal noise was heard during retraction after which the MC-124 Core Charge was removed.

6. Inspection indicated that the top surface of the core charge was scored and that an area approximately 1/8-inch deep by 1/4-inch wide extending the length of the core charge was gouged in the lower section.

7. Approximately 1/4-teaspoon of powdered explosives was recovered from a tear in the MC-347. The tear measured approximately 1-1/2-inches wide, by 2-1/2-inches long by 5/16-inch deep.

8. The contact heads of the MC-79 Connector Assembly were sheared off.

9. This accident was caused by excessive protrusion of the MC-79 contacts.

10. Procedures of TP B7-3 provide no requirement for measurement of contact protrusion for WR weapons.

11. Three additional incidents involving the MC-79 contacts have occurred with the result that a category 2 hold order has been placed on the Mk 7 Mod 5E and Mk 7 Mod 6E Bombs, and the Mk 7 Mod 1E Warhead. The hold order prohibits operation of the MC-44 IFI mechanically or electrically except under emergency conditions or on a "one time" basis to operate the IFI to the "out" position in conjunction with capsule loading.

12. The hold order will be lifted upon accomplishment of Alt 209 which provides for replacement of the MC-79 with a connector of a different type. Trap door plug assemblies will be retrofitted to replace the existing terminal block assembly.

Incident #1: (~~SRD~~)

1. This incident occurred during storage inspection of a Mk 5 Mod 0 Warhead (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE b(3)

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2. Upon removal of the detonator to determine the cause of the tightness, the nose, booster pellet, and retainer ring remained in the adapter well.

3. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DTRA b(3)

4. It is apparent that the defect was due to failure of the retaining ring to remain seated.

5. This defect was also discovered in detonators of other boxes inspected. The using Services have been made aware of the defect and it is a subject of Unsatisfactory Report action.

Incident #2: ~~(CRD)~~

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE b(3)

2. The cause of this incident is attributed to improper assembly procedures and laxity in quality inspection.

Incident #3: ~~(CRD)~~

This incident which involved a Mk 7 Mod 5 Bomb and a 1E23 Detonator was identical to incident number 2.

Incident #4: ~~(CRD)~~

1. A Mk 7 Mod 5 WR Bomb was being loaded on a B-57 Aircraft. The bomb had been positioned and raised to within approximately six inches of the bomb rack when a crew member was directed to install the pull-out cables.

2. PO-3 was mated to J-23 which grounds the weapon to the aircraft. The crew member was aligning the other cables when PO-1 was placed sufficiently close to J-22 to cause arcing between Pin C and the female receptacle of J-22.

3. Pin C of the pull-out cable was slightly burned and the contact in J-22 of CF-911 was welded closed by metal from the end of Pin C.

4. The cause of this incident is attributed to human error and lack of proper identification of the bomb receptacles.

5. A retrofit order has been processed to provide identifying stencils on the bomb in the vicinity of receptacles J-22, J-21, and J-23. The retrofit order will be applicable to Mk 7 Mod 4E, 5E, and 6E.

Incident #5 - 6: ~~(CRD)~~

1. On two occasions, arming wires attached to the S-1 Pull-out Switch of a Mk 28 Bomb have been inadvertently extracted.

2. The bombs were downloaded from aircraft without properly removing the clevis and pin from the S-1 Connector with the result that the S-1 Switches were actuated.

3. Cause of these incidents is attributed to human error.

Incident #7: (CRD)

A Mk 28 Bomb was being positioned under an aircraft pylon when the arming wire snagged on a pylon bomb suspension lug actuating the S-1 Switch. The cause of this incident is attributed to failure to sufficiently lower the MB-5 Bomb Cradle prior to positioning the bomb under the aircraft pylon.

Incident #8: (CRD)

1. The MC-543, Sequential Timer, and Low Voltage Thermal Batteries of a Mk 27 Mod 0 Type 3 Training Weapon were accidentally activated when the weapon was unloaded from an A3D Aircraft.

2. Cause of the incident is attributed to failure to disconnect the arming rod pull-out cable "D" ring from the pull-out bail attached to the aircraft prior to off-loading the weapon.

3. A change to clarify terminology used in check lists has been made as a measure to prevent a recurrence of this type of incident.

4. Tests to determine the presence and integrity of the pull-out shear pin are also being proposed.

Incident #9: (C)

1. During run-up of an F100-D Aircraft, the aircraft speed brake actuated and impacted the Mk 28 Weapon aboard the aircraft.

2. This incident resulted in repairable scratches on the weapon and minor damage to the speed brake.

3. Cause of the incident is not known.

4. Similar incidents involving F100-D Aircraft and Mk 28 Bombs have occurred and have been attributed to failure of the dive brake interlock switch to function properly.

Incident #10: (CRD)

1. During replacement of a rejected adapter ring, a Mk 34 Mod 2 Warhead dropped approximately 6-3/4-inches into the case of a Mk 101, LULU. The warhead stopped when it reached a smaller diameter segment of the LULU case.

2. The warhead is presently undergoing post mortem by an AEC agency to determine extent of damage.

3. The incident was caused by failure to follow disassembly procedures of the appropriate Technical Publication. The warhead would not have fallen if the sling prescribed in the Technical Publication had been used.

4. Action has been taken to insure the presence of trained, qualified, and properly designated crew chiefs to direct the work of less qualified members of assembly crews.

Incident #11: (SRD)

1. The nose cone of a Jupiter Missile containing a Mk 49 Mod 3 Warhead (Alt 202) was accidentally dropped to the ground through a distance of approximately 10 feet.

2. Cause of the incident is attributed to a corroded missile connector which permitted accidental actuation of three explosive bolts separating the nose cone from the missile during a check-out operation.

3. Post mortem examination of the warhead indicated no damage.

Incident #12: (C)

1. During movement of a Mk 39Y1 Mod 2 Bomb from an igloo, the upper fin on the right side of the weapon was bent.

2. Cause of the damage was determined to be misjudgement of distance of the bomb from the wall of the storage structure. As the electric tug driver started to move the bomb, the front bolster wheels pivoted moving the front of the weapon away from the wall and the rear of the weapon toward the wall. The upper right fin struck the arch of the igloo causing the damage to the fin.

3. At this particular location, procedures have been adopted to prohibit placing a stored bomb closer than 18 inches to a structure wall.

Incident #13: (U)

1. On two occasions, failures of the bottom pedestals of M62 Wreckers have caused the pedestals to break loose from the truck bed while loading 762 mm WR Rockets onto a pole trailer.

2. Cause of these failures is suspected to involve cracks in the pedestals and is being investigated by the responsible agency.

3. Special test and inspection requirements are being devised to preclude future incidents of this type.

Incident #14: (C)

1. Two incidents have occurred which resulted in damage to Mk 41 Bombs and the H-661 Security Cover Frame.

2. The cause of these incidents is attributed to excessively tight snubbing of the weapon during loading in a straddle carrier. This causes the supporting foot of the H-661 to exert a force on the top of the container with resultant damage to the security cover and the bomb. The bomb case sustained deep dents.

3. To prevent future incidents of this type, a Retrofit Order H661-501 has been published directing removal of the supporting foot from the H-661.

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Incident #15: (~~CRD~~)

1. A Mk 7 Mod 5 Bomb Arm/Safe Switch was inadvertently armed during an aircraft loading operation. After the weapon was loaded, power was applied and the IFI switch of the T-145 was actuated. At the same time the arm/safe switch was also inadvertently actuated.

2. Arming and safing wires were in place and nuclear component was not installed.

3. This incident is attributed to human error. An extensive training program has been instituted to insure T-145 operator proficiency.

Incidents #16 - 33: ~~(S)~~

Eighteen additional incidents were reported to Field Command, DASA during this period but are not included in this summary because of their minor nature and lack of significance. These eighteen incidents are included in the statistical summary which follows:

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 September 1960 through 30 November 1960

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	4	NSS	0	Logistical Air	0	Test	3
				Other Air	17		
Hoist, Cranes, Elevators (Fixed)	3	OSS	0	Rail	0	Maintenance & Inspection	2
Manual	0	SSF	0	Truck	0	Storage Inspection	4
TOTAL	7		0		17		9

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Accidents and Incidents During the Period 1 December 1960 through 28 February 1961

Accident #1: (~~SRD~~)

1. During a training demonstration involving the functioning and firing sequence of an XM60, training ADM, the dummy detonator bridge wires were fired. The complete forward area procedures were accomplished to include proper connections of the cables between the power supply and the coding unit. During the demonstration of the mechanical timer, students were permitted to start and safe the timers. The training was interrupted for lunch and upon return of personnel, it was observed that two timers had run down, the thermal batteries had been functioned, and the detonator bridge wires had fired.

2. Investigation revealed that the incident was caused by a series of circumstances as follows:

a. Connection of cables between the power supply, timer, and coding unit was unauthorized.

b. Timers were not reset or safed after interruption of the demonstration.

c. Explosive Ordnance Disposal personnel receiving the training were not aware that the components of training ADM's were not all inert.

d. Procedural guidance and check sheets were not in the possession of personnel during the demonstration.

e. Forward assembly procedures were not authorized for this particular unit.

3. Action to prevent future accidents of this nature has been recommended to Department of Army:

a. Operations of this type should be conducted under direct supervision of qualified personnel.

b. Operations should not be conducted without following specific publications and applicable check sheets.

Accident #2: (C)

A Mk 28 OST Weapon was intentionally jettisoned at sea in an approved dump area. Jettison action was taken to minimize the hazard of a wheels-up landing made necessary by nose gear failure.

Accident #3: (~~SRD~~)

1. During a Project Coverall operation, a B-52 Aircraft with two (b)(3):42 USC 2162(a) Bombs aboard went out of control at an estimated altitude of 10,000 feet. The two bombs released due to the violent maneuvers of the aircraft. DTRA b(3)

2. One bomb dropped free fall and the other was parachute retarded. The altitude at which the bombs separated from the aircraft is unknown.

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3. The safing pins were evidentally extracted from the arming rods of the MC-797's by movement of the bombs within the aircraft due to an apparent breakup of the bomb bay section in the air. Upon separation, the arming rods of the MC-845 and the pull-out valve rods of the MC-766 were retracted.

4. The low voltage thermal batteries and the MC-543 timer of the retarded bomb were activated and at timer run-down the high voltage thermal batteries were activated. The MC-772 Armin Safing Switch was in the safe position (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

SIRA (b)(3)

5. The safe position of the MC-788 precluded X-unit charging with consequent failure of the bomb to detonate on receipt of the impact signal.

6. The parachute retarded weapon was found relatively intact with the nose buried 18 inches in the ground while the free fall weapon was buried approximately 18 feet in the ground, telescoped within itself. The weapon high explosives did not detonate on impact.

7. The timer of the free fall bomb did not run to completion and the high voltage thermal batteries were not activated.

8. The cause of this accident is unknown at this time.

Incident #1: (S)

1. During down-loading of a Mk 90 WR Weapon from a P5M-2S Aircraft, one of three hoisting cables ran free permitting the weapon to strike the bomb bay. No damage to the weapon resulted.

2. The event was caused by slippage of the AERO 14B Hoist Brake permitting the cable to become slack.

3. A recommendation has been made to replace the AERO 14B Hoist with a rachet type hoist.

Incident #2: (C)

1. A Mk 39 Mod 2 Weapon, mounted on an H-526 Bolster was dropped during loading into a C-124 Aircraft. The right forward hoist cable was improperly attached to the H-526 Bolster Ring and disengaged as the weapon was being hoisted toward the aircraft.

2. Exterior damage consisted of the following:

a. Security cover and frame were damaged beyond repair.

b. Lifting bracket was ripped loose from the H-526.

c. Rear access cover was torn loose from the bomb and rear case sustained damage.

d. The nose of the bomb was dented.

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3. The extent of internal damage has not been determined. The weapon has been returned to the AEC for evaluation of possible internal damage.

Incident #3: (CRD)

1. A Mk 28Y3 Mod 0 Bomb was subjected to the heat of a fuel fire for approximately two minutes aboard a parked F-100D Aircraft when the fuel tanks were accidentally jettisoned and ignited.

2. Alt 202 had not been accomplished on the weapon. The area was monitored for radiation with negative results and the select and power switch of the T-249 were checked and found to be safely positioned.

3. The weapon was checked to determine if abnormal heating had occurred. It was apparent that the weapon had not been heated to a degree that would cause functioning of arming components.

4. The high voltage thermal battery pack was then removed and the weapon was down-loaded from the aircraft, placed on an MF-1 Trailer and returned to a storage area where it was isolated from other weapons.

5. Cause of ejection of the fuel tanks has not been determined. It is believed that the fuel was ignited by detonation of the inboard pylon ejector cartridges.

6. The following steps have been taken to minimize the probability of similar future incidents:

a. Pylon cartridges shall be removed during engine run-up.

b. Fire trucks shall be in standby at a shorter distance from the aircraft.

Incident #4: (C)

1. A Mk 28Y1 Mod 1 External WR Bomb was inadvertently pushed into the pylon of an F-100D Aircraft after the bomb was downloaded. The SA730 Adapter struck the pylon, shearing off the adapter plug and bending the pins of the male receptacle.

2. Cause of this incident is attributed to human error by the handling crew.

Incident #5: (SRD)

1. An operator of a 4,000 pound forklift accidentally tilted the tines downward allowing a Mk 101 Mod 0 Depth Bomb with a W34 Mod 2 WR Warhead to slide off the tines and fall a distance of approximately three feet to the ground.

2. The right front wheel of the H-3129 struck the ground first and the weapon rolled onto its side.

3. The degree to which the weapon was damaged has not been established. Continuity and pressure checks were made and air in the pressure hull was monitored (b)(3):42 USC 2162(a) DTRA b(3) Test indications were normal and monitoring results were negative.

4. Cause of the incident is attributed to personnel error.

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Incident #6: (C)

1. Two Mk 5 Mod 3 Weapons in H-46 Containers were being off-loaded from a C-130 Aircra using the internal aircraft winch mounted at the forward end of the cargo compartment. The winch cable was routed under the forward weapon container and attached to the rear weapon container which had been manually positioned a few feet from the off-loading ramp. The weapons were apprc imately eight feet apart.

6

2. Preparatory to off-loading the rear weapon, the winch operator engaged the winch and the rear weapon began to move toward the forward weapon instead of down the ramp. The operator wa unable to stop the winch before the rear weapon had been drawn against the forward weapon which in turn was pushed into contact with the winch.

3. At this time the external power cable which supplies power to the winch was disconnected.

4. The weapons were not damaged. The forward weapon container (H-46) sustained a dent i the rear section approximately 15 inches long by eight inches wide by two inches deep and the weapon container drawbar was cracked.

Incidents #7 - 13: (C)

Seven additional incidents were reported to Field Command, DASA during this period, but are not included in this summary because of their minor nature and lack of significance. These seven incidents are included in the statistical summary which follows:

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 December 1960 through 28 February 1961

HANDLING		STORAGE		TRANSPORATION		OPERATION	
Material Handling Equipment (Mobile)	2	NSS	0	Logistical Air	0	Test	5
				Other Air	3		
Hoist, Cranes, Elevators (Fixed)	3	OSS	0	Rail	0	Maintenance & Inspection	0
Manual	1	SSF	0	Truck	2	Storage Inspection	0
TOTAL	6		0		5		5

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Accidents and Incidents During the Period 1 March 1961 through 31 May 1961

Accident #1: (~~SRD~~)

1. During runup of a Regulus Missile Engine, the missile moved forward and impacted the closed hanger doors of the submarine.

2. The engine runup was being conducted at 100% throttle with throttle setting controlled remotely from the control console.

3. When the missile moved forward on the launcher, the umbilical cable through which the throttle is remotely controlled separated from the missile. Separation of the umbilical cable resulted in loss of remote control and caused throttle control to change to automatic at 100% RPM.

4. A crew member succeeded in removing engine power by closing the missile fuel valve.

5. The exact cause of this accident has not been positively identified. It has been tentatively established that the missile was positioned too far forward on the launcher to insure engagement of the detents or that the detents failed.

6. The W27 Warhead sustained a dent on the exterior surface approximately eight inches long by one-eighth inch deep.

7. The missile skin sustained damage as follows: The nose ring casting was fractured, the nose air scoop was wrinkled, and the midship airframe was buckled.

8. Procedural changes have been established to prevent a recurrence of this type of accident.

Accident #2: (~~SRD~~)

1. A B52-F Aircraft with two (b)(3):42 USC 2162(a) Bombs aboard crashed as a result of engine failure. The aircraft was abandoned by the pilot at an altitude of 4000 feet and contacted the ground in a normal flight attitude at a speed of 200-250 miles per hour. DTRA b(3)

2. The bombs separated from the aircraft upon impact or shortly thereafter and were severely damaged. Very little evidence of fire was observed.

3. The aircraft was equipped with DCV-47/A (T-380) readiness switches and all design safety features of the bombs performed adequately.

4. The arming pull-out rods (MC-845) of both weapons were extracted and the MC-543 Internal Timers were actuated. The MC-1288 Arm/Safe Switches were in the Safe position. The MC-437 Thermal Batteries in the MC-640 Low Voltage Thermal Battery Pack of one weapon were actuated. The MC-641 High Voltage Thermal Batteries of neither weapon were actuated.

5. The high explosives components of both weapons were badly damaged and were subsequently collected and burned.

6. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DTRA

7. Post Mortem analysis indicates a probable cause of the activation of the low voltage thermal batteries of the one weapon was a cable short which permitted the energy from the MC-845 Bisch Generator to bypass the MC-1288 ARM/SAFE Switch. It is suspected that the MC-845 pulse resulted from the mechanical shock sustained upon impact and was passed to the MC-640 through one of the possible random short circuits.

Incident #1: (~~SRD~~)

1. A Mk 27 (Type 3) and a Mk 107 (Trainer) were loaded into an A3D Aircraft in an unauthorized mixed multiple carriage configuration utilizing the normal pull-out cables between the weapons and the T341 Bomb Bay Junction Box. For the Mk 107 Trainer this included the insertion of the Mk 11 Rectifier Plug between the pull-out cable and the distribution box.

2. The post load checks on the Mk 27 were completed satisfactorily.

3. Smoke and an acrid odor were observed when the T-249 Power Switch was turned on during post load check of the Mk 107.

4. Power was immediately cut off and the bombs were removed from the aircraft.

5. Inspection of the Mk 27 indicated that the ARM/SAFE Switch was positioned approximately half way between ARM and SAFE position favoring the ARM position.

6. The ARM/SAFE Switch was then rotated 45° placing it between ARM and SAFE, but favoring the SAFE position.

7. A T-304 Test indicated that the weapon was armed. The switch was again rotated 45° where it's position favored the ARM position and a T-304 Test indicated that the weapon was in a safe condition.

8. Cause of this incident is attributed to incompatibility of the circuits of these two weapons in mixed multiple carriage. Authorized multiple loads or mixed multiple loads for A3D Aircraft are prescribed in specific check lists. Compliance with loading check list procedures would have precluded this incident.

Incident #2: (~~SRD~~)

1. A Mk 7 Mod 5 Bomb loaded on the centerline station of an A4D Aircraft was hit by the catapult bridle during launch from an aircraft carrier.

2. The MC-440, Ballistic Case Section, was dented in an area 11 inches by 10 inches at the 6 O'clock position of Station 54. The dent was approximately two inches deep with a 2½ inch break in the skin. Mounting Ring (PN 119991) was also dented at Station 54.

3. Visual inspection indicated no damage to the warhead. However, the nearness of the point of impact to the high explosives sphere was a matter of concern. The weapon was placed in RED category and returned to the AEC for further evaluation of damage.

4. Results of the AEC evaluation are not available at this time.

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Incident #3: (SRD)

1. During post load checks of a Mk 7 Training Weapon aboard an A4D Aircraft, a crew member accidentally rotated the T208A Selector Switch past the post take-off position. This operation functioned the IFI to the "in" position.

2. Electrical power was immediately cut off and a visual inspection was performed. Power was reapplied and the IFI was operated to the "out" position.

3. To preclude a recurrence of this type of incident a recommendation to modify the T208A to provide a positive stop on the selector has been made.

Incident #4: (SRD)

1. A Mk 90 Mod 0 OST Weapon was inadvertently manually released from an aircraft during a simulated tactical problem. The bomb bay doors of the P2V Aircraft were not open and retained the weapon in the aircraft.

2. The Aero 1B Harness was pulled out as a result of the 4 to 6 inch drop. However, the F/ARM Switch was in the SAFE position and power was not applied to any of the explosives switches.

3. The manual safety switch was in the ARMED position and was returned to the SAFE position within fifteen seconds by a crew member.

4. The weapon was expended on target by opening the bomb bay doors.

5. It has been determined that a crew member inadvertently functioned the manual release.

6. Investigation of this incident resulted in the following recommendations:

a. An interlock be installed on the manual release system to prevent its activation when the bomb bay doors are closed.

b. All simulated runs be simulated in all respects with no switches or levers activated.

Incident #5: (SRD)

1. Three Mk 28 Mod 0, Internal, Y1, War Reserve Bombs were being transferred on a 25-foot flatbed trailer from a storage area to an aircraft for logistical shipment. The wheels of the H-532B were on the trailer bed and were chocked by triangular chocks fastened to the trailer bed by ten-penny nails.

2. When the trailer brakes were applied, one of the chocks failed and the weapon moved forward coming to rest against the bulkhead of the trailer.

3. Resultant damage consisted of broken fin rivets and distortion of the fin. The rear access cover was also damaged.

4. Cause of the incident is attributed to failure to use the blocks and load binders prescribed in TP 45-51.

Incident #6: (SRD)

1. A Mk 101 Mod 0, Depth Bomb (W34 Mod 2 Warhead) on an H-3129 Bomb Skid fell approximately one foot from a forklift. The incident occurred when the forklift stopped

with the forks tilted downward preparatory to lifting the bomb to place it aboard a transporting vehicle.

2. Cause of the incident is attributed to wet conditions and careless forklift operation.

3. Storage inspection indicated that the warhead was not damaged.

Incident #7: (SRD)

1. A Mk 101 Bomb (Mk 34 Mod 2 Warhead) tipped and rolled from it's wood shipping skid while being moved with dolly levers. Part of the wood shoring blocks separated causing the dolly lever tines to slip.

2. Storage inspection indicated only minor damage to the bomb. The connector cover was dented and paint was scratched.

3. To minimize the probability of a recurrence of this type of incident, the H-3129 Skid is being considered for use in shipment of the Mk 101 and Mk 105 Bombs.

Incident #8: (SRD)

1. In preparation for movement to a storage area, four XM48 Warhead Sections (W31 Warheads), were mounted on an M127 12-ton semitrailer.

2. The driver of the M52, five-ton truck tractor lowered the trailer outrigger wheel and uncoupled the trailer from the tractor.

3. When the tractor moved forward, the semitrailer disengaged and the outrigger wheels retracted, permitting the forward portion of the trailer to drop to the ground.

4. It was estimated that the warhead sections on the front of the trailer dropped a vertical distance of 18 inches while the warhead sections on the rear portion of the trailer dropped a distance of approximately five inches.

5. Continuity tests, pressure checks and tritium monitoring revealed no abnormal warhead conditions and upon AEC recommendation the warheads were returned to operational status.

6. Cause of this incident is attributed to failure of the tractor driver to properly secure the outrigger wheels for the uncoupling operation.

7. To prevent a recurrence of similar incidents, it has been recommended that:

a. An officer or non-commissioned officer supervise all handling and movement of atomic weapons.

b. All drivers be made completely familiar with procedures and responsibilities involved with the operation of equipment used in the movement of atomic weapons.

Incident #9: (SRD)

1. A Mk 28 Mod 1 Y1 Bomb was being transported from a storage magazine to a maintenance building by a 6000-pound capacity forklift.

2. In an attempt to raise the weapon by elevating the forks, the operator inadvertently actuated the reverse lever instead of the lift lever.

3. The abrupt change in direction of the lift truck caused the weapon to fall approximately four inches from the forks to the ground. At the time of the incident the lift truck was traveling approximately five miles per hour.

4. Weapon damage consisted of two bent fins.

5. Cause of the incident is attributed to operator error.

Incident #10: (SRD)

1. A railroad freight shipment consisting of four cars containing Mk 7 Warheads and 1E23 Detonators, one car containing Mk 2 power supplies and two cars containing Mk 1 Fire Sets was involved in a derailment.

2. One of the four cars containing Mk 7 Warheads and detonators was derailed but remained upright. Examination of the contents of this car and the other three cars containing warheads and detonators revealed that there was no visible damage to warheads or detonators. The derailed car was returned to the track and minor repairs were made.

3. Two fire sets and 19 power containers were damaged to an extent that maintenance and repairs were necessary. The cars containing the fire sets and power supplies were unloaded and the contents were transferred to undamaged cars.

4. Cause of the derailment was attributed to a broken journal on a tank car located ahead of the courier observation car.

Incident #11: (SRD)

1. A Mk 102 Mod 0 Practice Depth Bomb slid from a Mk 8 Bomb Skid during an operational movement.

2. The bomb is retained on the skid by cam-actuated, spring loaded devices (boomers) and chains.

3. Investigation indicates that this incident was caused by failure of personnel to properly adjust and tension the tie-down system.

4. It is planned to replace the Mk 8 Bomb Skid with a new 4000-pound capacity, four-wheeled device.

5. To minimize the probability of a recurrence of this type of incident, handling personnel will be informed of proper procedures for use of weapons handling equipment with emphasis being placed on proper adjustment of weapons tie-down devices.

Incidents #12 through #24: (UNCLAS)

Thirteen additional incidents were reported to Field Command, DASA during this period but are not included in this summary because of their minor nature and lack of significance. These 13 incidents are included in the statistical summary which follows:

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STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 March 1961 through 31 May 1961

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	7	NSS	0	Logistical Air	0	Test	10
				Other Air	3		
Hoists, Cranes, Elevators (Fixed)	0	OSS	0	Rail	1	Maintenance & Insp.	3
Manual	0	SSF	0	Truck	2	Storage Insp.	0
TOTAL	7		0		6		13

Of the 18 incidents not described in this appendix, seven involved the Nike Hercules Missile (Mk 31 Warhead). Six of these seven incidents were attributed to moisture in electrical connectors and receptacles which caused electrical short circuits and resultant activation of BA472U Batteries. No damage was sustained by the warhead which remained electrically isolated from the missile.

Corrective actions to eliminate this type of incident are in progress. Use of potting compounds for electrical receptacles and connectors is being considered along with periodic megger checks of the cables and receptacles.

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Accidents and Incidents During the Period 1 June 1961 through 31 August 1961.

Incident #1: (S~~RD~~)

1. During preflight check of a GAM 77 aboard a B-52G Aircraft, the WARN light on the armament panel and WARHEAD light on the missile launch panel blinked off and on at five second intervals when the armament selector switch was moved from OFF to the SAFE position.

2. The Mk 28 WR Warhead was disconnected and tested with a T-304B. The DS1 Light on the T-304B Tester failed to light. The warhead was removed from the missile and another T-304B Test performed with indications the same.

3. The warhead battery (MC-796) was removed and it was determined that the squibs had not fired.

4. A test of missile circuitry indicated no malfunction and circuitry of the aircraft was tested with negative results.

5. The same indications were again observed when the same missile with a WR warhead was tested aboard another B-52 Aircraft.

6. A complete check-out of the electrical system by a technical representative revealed that 28 volts were present on Pin A of the warhead disconnect plug (M5P8) with the selector switch on SAFE.

7. It was further discovered that Pin A and Pin X in the M5J8 Cannon Connector on the warhead disconnect panel were shorted together.

8. This caused the MC-888 Switch to drive continuously.

Incident #2: (S~~RD~~)

1. Three Mk 28 Y1 R1 WR Weapons and one Mk 28 Y2 R1 WR Weapon were mounted on a MHU20/C Multiple Store Clip-in Assembly and supported on a Type MHU/19E Cradle. During final stages of loading, hoisting operations were halted to permit a visual check of the latching cams after the right side of the MHU20/C Clip-in Assembly had latched.

2. About 30 seconds later, a loud crack was heard, the forward end of the right beam flew upward and the MHU/19E Cradle shifted erratically to the left. The right side locking pins were immediately inserted and all power was cut off at the "J" Box.

3. Investigation disclosed that the right forward pick-up point on the MHU/19E Cradle for the hoist tube attachment had completely broken away and the resulting sudden shift had bent the rear pick-up point and the rear hoist tube pip pin.

4. Emergency loading procedures were used to pick up the weight of the load and to substitute replacement tube adapters and a hoist beam pip pin.

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5. Cause of the incident is attributed to structural failure of the forward MHU/19E Adapter.

6. The weapons were not damaged.

Incident #3: (SRD)

7 1. Four Mk 28 Mod 1 WR Bombs were being demated from an MHU20/C in an assembly plant. The operation was conducted in accordance with established procedures up to the point of operation of the Manual Release Lever and Drive Crank.

2. The technician performing the release procedure released the upper right manual release lever and operated the drive crank releasing the top right Mk 28 which fell onto the lower right unit and rolled onto the forklift tines, which were in position to receive the lower right bomb.

3. Two weapons sustained damage as follows: Upper weapon - three fins (MC 867) damaged, radar fairing (CF 1329) damaged and minor scratches in the launch case. Lower weapon - one fin damaged.

4. The cause of this incident is attributed to human error, i.e., the weapon was released in improper sequence. To prevent recurrence of this type of incident, two technicians will be required to perform the release operation. One technician will cut the safing seal and release the manual release lever while another technician will operate the drive crank.

Incident #4: (SRD)

1. As a result of a severe rain storm, a multicubicle magazine was flooded submerging Mk 28 warheads, fuzes, and shape components.

2. Cause of the incident was overloading of the area drainage system.

3. Corrective action by the local post engineer is being taken to prevent a recurrence of this type of incident and the area will not be used until the action is completed.

4. The weapons involved have been disassembled pending receipt of AEC approval to return them to servicable status.

Incident #5: (SRD)

1. An XM34 Warhead Section (Mk 7 Mod 2 Warhead) was dropped approximately 12 inches while it was being placed aboard a transporting vehicle.

2. The hoisting cable of the M246 Truck Tractor Wrecker separated approximately 43 inches from the hook end permitting the warhead section to drop approximately 12 inches to the bed of the transporting vehicle.

3. Damage to the warhead consisted of a pinched number 16 Detonator Cable and cracked insulation on connector assembly number 19.

4. The wrecker cable had been load tested approximately 35 days prior to the incident.

Incident #6: (SRD)

1. During routine checks of a Nike Hercules (XM22E/Warhead Section), it was observed

that the W6F Cable was burned and that the battery terminals indicated arcing had occurred.

2. Inspection indicated that a defective or grounded battery trickle charge circuit caused the short circuit in the W6F Cable and that the battery arcing was caused by shorting of the battery terminals during assembly of the battery pack.

Incident #7: (SRD)

1. A Mk 36 Mod 2 Bomb was being transported by a Ross Straddle Carrier, Model 100-78. The carrier driver detected engine trouble and stopped the carrier. At this time, gasoline was observed flowing onto the weapon security cover from the carburetor of the straddle carrier.

2. Investigation revealed that the carburetor main jet adjusting pin was missing.

3. The gasoline was washed away from the security cover and the weapon was transferred to another straddle carrier for movement to a maintenance plant. Inspection revealed gasoline splash spots on the weapon skin.

4. To prevent a recurrence of this type of incident, the carburetor main adjustment jets of all straddle carriers at the base where the incident occurred have been safety wired in position and secured by a lead seal. Close inspection of carburetors and other potential sources of gasoline leaks has been made an item of daily inspection by maintenance personnel.

Incident #8: (SRD)

1. During a storage inspection of a Mk 7 Mod 5 WR Bomb, the following observations were made:

2. Both safing wires were installed through the arming wire cup assembly but not through the pull-out switches.

3. Cause of this incident is attributed to possibility that wires were partially extracted by an amount sufficient to clear the holes in the Pull-out Switches but still remain in the cup assembly. It is believed that human error during loading or unloading operation caused the incident.

Incident #9: (SRD)

1. An Honest John, 762 MM Rocket (W31 Warhead) on an M-405 Handling Unit was being towed by a prime mover when the prime mover became stuck in mud.

2. As a result of the efforts to free the tractor, the M-405 and the tractor jackknifed causing the nose of the rocket to strike the truck.

3. The resultant damage consisted of a dent 2-inches long by 1/4-inch deep approximately 5-inches from the nose of the rocket and partial separation of the warhead section at station 13.5.

4. The cause of the incident was attributed to insufficient clearance between the M-405 and the towing vehicle.

5. A recommendation has been made that the lunette on the M-405 Handling Unit be extended approximately 10 inches to provide sufficient clearance regardless of the angle between the prime mover and the M-405.

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Incident #10: (SRD)

1. During performance of Alt 197 on a Mk 15 Mod 2 WR Weapon, the following damage to CF-1294 was observed. The wire connecting Pin B of P 2 to Pin A of P 5 was frayed with insulation stripped approximately one inch. The wire had been pinched by the bolt securing the alignment plate to the polar cap. CF-1294 had been removed and replaced by CF-1577 as part of Alt 197.

2. A T-304 Check prior to and after maintenance on unit was satisfactory.

3. It is believed damage occurred during conversion of weapon from Mod 0 to Mod 2

Incident #11: (SRD)

1. The following incident involved accidental release of an MB-1 Rocket (Mk 25 Mo 0 Warhead) from an F-101B Aircraft.

2. The left weapon had been downloaded from the aircraft and removed from the immediate area. The rack was re-cocked to perform a check. When instructed to release the empty left rack, one of the crew members released the right rack. The weapon droppe from the aircraft and struck the rear wheels of an MF-9 Trailer which was being moved into position to receive the weapon. The weapon remained on the trailer frame between the rear wheels and the pintle bar.

3. Damage was limited to minor scratches on the nose cone and slight damage to th heater blanket.

4. Cause of the incident was release of the wrong rack by the crewman.

Incident #12: (SRD)

1. This incident occurred during training emplacement of an XM60, ADM Trainer with a Mk 7 Warhead.

2. Detonator Number 39 was cracked and broken in two locations when the H-319 Container was being replaced.

3. The cause of the incident is attributed to snagging of a detonator cable when the container cover was lowered into the container base.

4. A recommendation has been made to add a Caution note at an appropriate place in TM 39-W7.25A-9 which will require closer inspection of this operation.

Incidents #13 - 38: (SRD)

Twenty-six additional incidents were reported to Field Command, DASA during this period, but are not included in this summary because of their minor nature and lack of significance. These 26 incidents are included in the statistical summary which follows:

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STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 June 1961 through 31 August 1961

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	10	NSS	0	Logistical Air	0	Test	4
				Other Air	4		
Hoist, Cranes, Elevators (Fixed)	0	OSS	0	Rail	0	Maintenance & Inspection	7
Manual	5	SSF	1	Truck	4	Storage Insp.	3
TOTAL	15		1	-	8		14

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Accidents and Incidents During the Period 1 September 1961 through 30 November 1961

Accident #1: (SRD)

1. Excessive pressurization of a Mk 28 Y2 RE Mod 1 War Reserve Bomb resulted in serious damage to the weapon components.

2. The primary cause of the accident was failure to substitute a K 1924 Low Pressur Regulator for the High Pressure Regulator attached to the K 1054 Nitrogen Recharger. The K 1924 Low Pressure Regulator is normally set at 17 psi delivery pressure for the pressurization operation. Through error, the High Pressure Regulator was set for 175 psi deliver pressure instead of the prescribed 17 psi delivery pressure for the K 1924 Low Pressure Regulator.

3. Initially the warhead was pressurized for 60 seconds and the T-283 Pressure Gauge indicated 9 psi. Pressurization was continued and after 20 seconds the pressure case failed. A technician was struck by a piece of porcelain from the lower connector on the P-901 Cable Assembly.

4. Inspection of the weapon revealed the following damage:

a. 360 degree rupture of the weld bead of the assembly container cover.

b. Fractures of the MC-1100 X-Unit Frame.

c. Shearing of the alignment bracket aft of the MC-756.

d. Fracture of the MC-711A Mounting Plate.

e. Smashed connector on the P-901 Cable Assembly.

f. Several brackets and connectors broken, bent, or cracked.

5. It is not known whether or not the T-283 indicated a true reading of 9 psi. Subsequent to the accident, the gauge was found to be faulty.

Accident #2: (SRD)

1. A re-entry vehicle with a Mk 49 Mod 3 Y2 Warhead with Alt 202 was demated from a Jupiter Missile and returned to an assembly area for maintenance and inspection.

2. The adaption kit and warhead were removed from the nose cone and a T-304 continuity test and a T-283 pressure test of the warhead indicated no abnormal conditions. The batteries of the adaption kit were found to be defective. Repair of the adaption kit placed it in satisfactory condition. During all of these operations the air was monitored continuously for tritium gas.

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3. Prior to reinstallation of the warhead in the nose cone, the warhead was purged and the T-290 Air Sampler indicated the presence of tritium gas within the case. Presence of tritium gas was confirmed by a second T-290 and a T-289 Detector.

4. Urinalysis tests were performed on all personnel involved, with negative results.

5. Previous activities involving the missile are as follows:

a. The missile was subjected to a severe electrical storm six days prior to discovery of the tritium leak.

b. Two days prior to discovery of the leak, the missile was lowered to the horizontal position for the annual missile recycle inspection during which red light indications revealed malfunctions in both adaption kit channels.

c. The re-entry vehicle was returned to the assembly area for corrective maintenance.

6. Examination of the warhead indicated that the channel "A" reservoir valve was open and that the tritium concentration in the warhead case was (b)(3):42 USC 2162(a) DTRA b(3)

7. Measurements indicated that tritium gas had been transferred to the weapon pit.

8. Technical advice from AEC contractors indicated that no hazards were present which would preclude air shipment of the warhead to a facility capable of complete disassembly and analysis of warhead components.

9. A preliminary report of the condition of the warhead components indicated that the high explosives showed no evidence of excessive heating and that the pit was at atmospheric pressure.

10. Inspection of the missile indicated that several electronic components were burned out, apparently due to a voltage surge caused by atmospheric electrical disturbances in the area.

Accident #3: (~~SRD~~)

1. A Mk 28 External Training Bomb was involved in an aircraft crash during emergency landing and was damaged beyond repair.

2. Cause of the accident was failure of aircraft electrical power.

Accident #4: (~~SRD~~)

1. A Mk 28 External Training Bomb was jettisoned over open sea from a FJ-4B Aircraft.

2. The weapon was jettisoned because of insufficient aircraft engine power to maintain flying speed with the bomb aboard.

Incident #1: (~~SRD~~)

1. During initial inspection after receipt of a War Reserve Mk 7 Mod 5 Bomb, it was observed that the safing and arming wires were in reversed locations in the Arm/Safe Retainer Assembly, i. e., the arming wires were in the safing wire location and the safing wires were in the arming wire location. Four screws were missing from the assembly.

2. Cause of this incident is attributed to personnel error.

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Incident #2: (~~SRD~~)

1. During a postload test of a Training Mk 1 Mod 0 30.5-inch Rocket (Boar) aboard an AD-7 Aircraft, smoke was observed coming from the tail of the weapon. Smoke was caused by an electrical malfunction which occurred when aircraft power was applied.

2. Cause is attributed to mismating of the Aero 4-B Pull-out Cable Assembly with the weapon pull-out switch assembly. Investigation of this problem by a Safety Study Group indicates that misalignment is relatively easy to accomplish inadvertently, due to connector design.

3. Actions to preclude further incidents of this type include inspection of the Aero 4-B Pull-out Cable Assemblies for proper polarizing groove index marks and closer adherence to check lists. Modification of the Aero 4-B Cable Connectors and J-703 Pull Switch connector to preclude misalignment has been recommended by the Safety Study Group.

Incident #3: (~~SRD~~)

1. The tail of an OST Mk 1 Mod 0 30.5-inch Rocket (Boar) was crushed while positioned on a shipboard aircraft elevator during movement between decks. The weapon was on a forklift at the time of the incident and was not properly positioned on the aircraft elevator.

2. Cause of the incident is attributed to personnel error.

Incident #4: (~~SRD~~)

1. A Mk 7 Mod 7 War Reserve Bomb suspended by a pylon from an F-84F Aircraft was damaged by aircraft fuel leakage. When the arming wires were checked through the inspection ports, it was observed that JP-4 Fuel had leaked into the MC-440, Ballistic Case through the arming wire retaining assembly.

2. Damage required replacement of the MC-131 interconnecting box and the MC-251 Motor Generator Unit.

3. The incident was caused by a leak in the fuel valve located above the aircraft pylon.

Incident #5: (~~SRD~~)

1. During a loading drill the Arm/Safe Switch of a Training Mk 1 Mod 0 30.5-inch Rocket (Boar) was actuated by inadvertent operation of the aircraft AMAC Arm/Safe Switch instead of the power-on switch. Upon actuation, aircraft power was removed immediately and the weapon Arm/Safe Switch manually returned to the safe position.

2. Cause of this incident was personnel error. A recent Preoperational Safety Study of this system led to the conclusion that these switches are subject to inadvertent operation and corrective action was recommended. The cognizant agency has initiated action to provide safety wire and guards for the switches.

Incident #6: (~~CRD~~)

1. A Mk 1 Mod 0 30.5-inch Rocket (Boar) was dropped approximately four inches during an aircraft loading operation. Hydraulic malfunctioning of the Aero 33C Bomb Truck precluded normal positioning of the weapon, making connection of the forward weapon lug difficult. The weapon rear lug was positioned and locked in the rear shackle. Attempts to reposition the weapon were not successful and it was decided to unlock the rear shackle, lower and re-raise the weapon.

2. On release, the weapon dropped approximately four inches to the cradle causing the tail to strike the deck, damaging the weapon midsection and fins.

3. The cause of this incident is attributed to personnel error, i. e., attempting to load the weapon with handling equipment known to be faulty. Slow loss of hydraulic pressure of the Aero 33C Bomb Truck was noted which caused the loaded cradle to settle at a rate of approximately 1/4-inch per minute.

Incident #7: (~~SRD~~)

1. The right main gear axle of an F100-D Aircraft broke while the aircraft was parked with a Mk 28 Mod 0 External War Reserve Bomb aboard. The aircraft settled onto the stub end of the main gear strut, subjecting the bomb to a severe jolt. The weapon tail (MC-716) was damaged when it contacted the metal shield used to protect the weapon from oil and fuel drippings from the aircraft.

2. Continuity and pressure checks indicated that the weapon was in otherwise satisfactory condition.

3. Cause of the incident was failure of the landing gear assembly strut axle.

Incident #8: (~~SRD~~)

1. Four Mk 28 Y1 RI War Reserve Bombs mated to an MHU-20/C Clip-in Assembly were downloaded from a B-47 Aircraft following a 14-day ground alert.

2. During the MC-1059 continuity test, the DS2 Lamp failed to light on all weapons and the DS1 Lamp did not light on one of the weapons.

3. Examination of the weapons disclosed no discrepancies.

4. Weapons were retested and the same indications of a malfunction were observed.

5. The weapons were demated from the MHU-20/C and a T-304 continuity test was performed. The DS2 Lights for all weapons indicated the batteries were satisfactory, but the DS1 Lamp failed to light indicating that the MC-754A Arm/Safe Switch was in the armed position.

6. The exact cause of this incident has not been determined.

7. A check of the aircraft wiring indicated voltage levels were present on appropriate pins sufficient to permit arming of the Arm/Safe Switch.

Incidents #9 and #10: (~~SRD~~)

1. Four Mk 28 RI War Reserve Weapons were being downloaded in a MHU-20/C. The lower right weapon was released from the MB-3A Bomb Rack and as the MHU-27/E was lowered, the weapon failed to completely separate from the rack. As the MHU-27/E was lowered, further, the weapon separated from the rack and fell approximately 3/4-inch onto the MHU-27/E. The parachute can of the weapon contacted the MHU-19/E causing a dent in the RISC (MC-1113).

2. Cause of the incident is attributed to personnel error in not noting that a bent lower locking pin on the MB-3A rack caused the pin to be retained in the rack.

3. A recommendation has been made to amend the clip-in inspection handbook to require inspection of the locking pins prior to releasing the rack. Another incident, identical to the above, occurred in which the MC-1120 pull-out rods were extracted.

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Incident #11: (CRD)

A fin of a Mk 28 Y3 Mod 1 War Reserve Weapon was observed to be damaged. Damage was discovered during preparation of the bomb for shipment. It is believed that the damage was sustained when the bomb was moved into or removed from a storage structure.

Incident #12: (SRD)

1. A Mk 28 Y3 Bomb was prematurely released manually from the pylon of an F-100 Aircraft during a downloading operation. The bomb was released before the S-1 Retaining Pin had been completely removed with the result that the S-1 Switch was extracted.

2. Cause of the incident was failure of the crew members to perform the pre-unloading procedures in the proper sequence.

Incident #13: (SRD)

1. The J-104 and S-1 Switch were separated from a Mk 28 IN Mod 2 War Reserve Weapon when the bomb was lowered from an aircraft using an MJ-1 Bomb Lift Truck. The cockpit teleflex handle had been pulled to unlock the control arm to permit the pull-out control assembly to follow the bomb down.

2. One of the retaining pins holding the pull-out control assembly was out of adjustment and the control arm was not fully unlocked with the result that the J-104 and S-1 Switch were separated before the lowering operation could be halted.

3. Cause of this incident is attributed to maladjustment of the retaining pin.

Incident #14: (SRD)

1. Loading of four Mk 28 Y1 RI War Reserve Bombs aboard a B-52D Aircraft was being finalized and the MHU-19/E Cradle was being lowered from the Clip-in Assembly. The fork of the MHU-19/E cleared the upper pedestal assembly. The rear main frame tube of the MHU-19/E Cradle contacted the lower right weapon.

2. The weapon sustained a very slight gouge.

3. Cause is attributed to lowering the MHU-19/E unevenly resulting in a bind on the upper pedestal assembly.

Incident #15: (SRD)

1. A Mk 28 Training Weapon was downloaded from an FJ-4B Aircraft prior to disconnecting pull-out cables and bales, activating the pull-outs and shearing the pulse plug pins.

2. Cause of this incident is attributed to failure to follow appropriate check list procedures for the downloading operation.

Incident #16: (SRD)

1. Post-loading procedures were being performed on a Mk 28 Bomb. After applying aircraft power and arming the unit, the crew returned the Arm/Safe Switch to the safe position. A red line was still visible indicating that the switch was not fully in the safe position. The T-249 In-flight Control Tester in the aircraft indicated that the switch was in the selected position although visual inspection indicated that the switch had not fully operated.

2. Cause of the switch malfunction is attributed to the frequent cycling of the switch during alert loadings.

Incident #17: (SRD)

1. One Mk 28 Y1 RI Mod 1 Weapon was damaged during downloading of four weapons in a clip-in assembly. The weapons were being loaded onto a MHU-19/E Cradle when the lower right weapon parachute can was observed to be resting on the MHU-19/E Frame. Inspection after completion of the operation revealed damage to the parachute container consisting of a dent approximately 3/16-inches deep covering an area of approximately 10 X 6 inches.

2. Cause is attributed to improper positioning of the MHU-19/E supports.

Incident #18: (CRD)

1. During a training loading exercise of a Mk 39 Mod 2 War Reserve Bomb, the end of the security frame cover caught on the static line of the parachute, tearing the parachute protective cover.

2. Cause of this incident was inattention of a crew member to the location of the security cover.

Incident #19: (CRD)

1. A Mk 39 Mod 2 War Reserve Bomb mounted on a P-3 Trailer rolled forward and impacted its tow vehicle after the trailer was disconnected from the vehicle.

2. Damage consisted of a dent in the frangible nose plate of the weapon.

3. Cause of the incident was failure to properly chock the P-3 Trailer.

Incident #20: (SRD)

1. In the course of an inspection of a structure containing Mk 39 Y1 Mod 2 War Reserve Weapons, three of the weapons were observed to be defective. The J-2 and J-3 Plugs of the CF-1301 Cables were disconnected from the MC-787A, Cold Cathode Triggered Pulse Circuit. This condition would result in a dud weapon.

2. Cause of this incident has not been determined. Investigation is being continued.

Incident #21: (SRD)

1. Reacceptance inspection of a Mk 39 Y1 Mod 2 War Reserve Weapon revealed the alignment key of the connector adapter of the MC-1110 to be broken.

2. Cause of the incident is attributed to metal fatigue due to frequent connections and disconnections of the connector adapter.

Incident #22: (CRD)

1. An XM22E1, Nike Hercules Warhead Section (Mk 31 Warhead) in an H-409 Container was dropped from the tines of a forklift while being moved from a truck to a transport aircraft. The warhead section container fell approximately 2½-feet, struck the concrete, and came to rest on its top. The container was immediately righted and moved a distance of 367-feet. Explosive Ordnance Disposal investigation revealed that the only apparent damage was to the weapon container. The EOD team declared the weapon safe for transport and it was returned to Letterkenny Ordnance Depot.

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2. Cause of the incident was considered by the investigating team to be unsatisfactory handling procedures and equipment.

3. The team recommended that:

a. Officials at the Transfer Point be made aware of the fact that a nuclear weapon is being handled so that proper precautions may be taken.

b. Safe procedures be developed for the loading and unloading of these weapons at the Transfer Point.

c. Courier officers be instructed that they must prevent the movement of a weapon involved in an incident until such movement is approved by control personnel.

Incident #23: (S~~RD~~)

1. A Block II Redstone Missile with an XM31 Training Warhead Section (Mk 39 Warhead was being defueled after a field exercise. During the defueling, a fuel vent valve failed to operate properly causing collapse of the alcohol tank. The training warhead and aft unit fell to the ground. The thrust unit stayed in the vertical position due to the weight of the alcohol and liquid oxygen.

2. The incident was caused by preservative material being left around the alcohol tank vent valve.

3. The XM31 Warhead Section was turned over to the support unit.

Incident #24: (S~~RD~~)

1. The third firing number, rather than the third safing number, was dialed during recovery operations of a Mk 7/XM60 ADM Trainer. Completion of the firing signal caused th four thermal batteries to be activated.

2. The cause was personnel error since procedures call for dialing the safing sequence.

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STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 September 1961 through 30 November 1961

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	7	NSS	0	Logistical Air	0	Test	4
				Other Air	8		
Hoists, Cranes, Elevators (Fixed)	1	OSS	0	Rail	0	Maintenance & Insp.	4
Manual	1	SSF	1	Truck	1	Storage Insp.	1
TOTAL	9		1		9		9

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Accidents and Incidents During the Period 1 December 1961 through 28 February 1962

Incident #1: (U) DASA Code 503A12

Date - 3 January 1962

1. A Mk 7 Mod 5 War Reserve Bomb sustained cracks in the radome assembly when it contacted the front frame of an MF-1 Trailer during a handling operation.

2. Cause of the incident was human error in that the bomb was positioned backwards relative to the trailer.

Incident #2: (U) DASA Code 516A111

Date - 16 November 1961

1. Subsequent to a training loading operation involving a Mk 7 Mod 5 Type 3 Weapon and an F-100 Aircraft, a hole was observed in the upper skin of the weapon.

2. It was determined that the hole had been punctured in the weapon by the pylon safety switch plunger during the loading operation. Further inspection revealed that the plunger of the safety switch was binding sufficiently to puncture the weapon skin.

3. Cause of this incident is attributed to human error, i.e., failure to discover that the switch plunger was not free to operate properly.

Incident #3: ~~(UFRD)~~ DASA Code 515CJ1

Date - 13 November 1961

1. A C-124 Aircraft carrying five Mk 7 Mod 7 War Reserve Weapons was struck by lightning during a night flight. A 2½-inch hole in the aircraft vertical stabilizer was observed.

2. A subsequent storage inspection of the weapons disclosed no damage to the weapons.

Incident #4: (U) DASA Code 504AJ1

Date - December 1961

1. Due to faulty alignment of a Mk 7 Training Weapon on its skid assembly, the weapon did not engage both securing lugs of the TF Aircraft when jacked into position for loading. The aft lug engaged properly but binding was experienced on the forward lug. In an attempt to position the weapon properly, the forward part of the skid was elevated further while the crew pushed on the aft weapon assembly. This action resulted in stress which caused superficial dents in the weapon.

2. The cause of this incident is attributed to incorrect loading procedures.

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Incident #5: (U) DASA Code 511EK1

Date - 8 December 1961

1. A Mk 7 Mod 5 Type 3 Weapon sustained a hole approximately 1/4-inch in diameter located approximately two inches to the rear of the front suspension lug in the weapon ballistics case during a loading operation. The hole was caused by the plunger of an electrical arming unit normally used with conventional bombs. The weapon was loaded without first removing the arming unit from the bomb rack.

2. The cause of this incident was attributed to failure of the loading crew to remove the arming unit prior to loading the weapon, as required by check list procedures.

Incident #6: (U) DASA Code 508A22

Date - 20 February 1962

1. A Mk 7 Mod 5 War Reserve Bomb was being pushed into a storage structure by a loading team. The right fixed fin trim tab struck the top of the structure door frame causing the trim tab rivets to shear.

2. Cause of this incident is attributed to personnel error.

Incident #7: (U) DASA Code 502BK1

Date - 5 December 1961

1. During the loading of a Mk 100 Training Weapon on a P2V-7S Aircraft, the band of the AERO 61A Bomb Hoisting Sling cracked between the last hole and the end of the band. The weapon was approximately two inches above the cradle of the AERO 6A which was in a completely lowered position. The loading operation was discontinued without further incident.

2. Laboratory tests are being conducted to determine the cause of the incident.

Incident #8: (U) DASA Code 510BK1

Date - 18 December 1961

1. A Mk 4 Mod 0 Boar Training Weapon was loaded aboard an AD-6 Aircraft. During the post load test using the approved special weapons check list, a loading crew member observed that the weapon Arm/Safe Switch stepped from Safe to Arm position and returned to Safe position when the T-349 F Power Circuit Breaker was activated. The operation was stopped immediately and the weapon was downloaded. A FAT Test indicated no weapon malfunctions. The aircraft wiring was also checked and no deficiencies were observed. A retest of the same weapon aboard the same aircraft was made the following day. It was noted that the Arm/Safe Switch in the weapon did not step when the Arm/Safe Switch on the T-349 Inflight Control Box was operated.

2. Investigation indicated that the Arm/Safe Switch on the T-349 was defective. It was found that the spring which returns the switch to the "OFF" position had become too weak to return the switch completely to "OFF" and that vibration or movement of the aircraft could cause the switch to operate intermittently.

Incident #9: (U) DASA Code 505A12

Date - 17 January 1962

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1. Acceptance inspection following a logistic shipment of a Mk 15 Mod 2 War Reserv Bomb revealed that two helical compression springs of the pullout valve assembly were lying loose in the weapon afterbody. Inspection of another weapon indicated that the spring from the left pullout valve assembly was severely deformed.

2. The cause of this incident is believed to be improper seating of the spring in the pullout valve assembly.

Incident #10: (U) DASA Code 506A22

Date - 27 February 1962

1. One Mk 25 Mod 0 War Reserve Warhead was dented in excess of prescribed dent criteria as a result of the presence of a foreign object lying on the frame of the MF-9 Trailer between the travel lock and the inner frame mounting point. The dent was observe during door rotation prior to downloading of the MB-1 Weapon.

2. The reason for the presence of the foreign object was not determinable.

Incident #11: (U) DASA Code 507B12

Date - 23 January 1962

1. The DS-2 Lamp of a T-304B Tester failed to light during an electrical continuity test of a Mk 25 Mod 1 Warhead.

2. The area was evacuated for a one hour period.

3. Post operation test of the T-304 Tester indicated that the DS-2 Lamp was inoperative.

4. A test with a replacement T-304 Tester indicated continuity and the warhead was returned to service.

Incident #12: (U) DASA Code 508DK1

Date - 23 December 1961

1. Upon completion of a periodic recycle check, a rapid fire test was conducted on a TM 76A Tactical Missile with a Mk 28 Mod 1 War Reserve Warhead. The test indicated a warhead NO-GO condition.

2. Power was removed from the missile and the warhead was electrically disconnected

3. A T-304 Test, confirmed by a second T-304 Test, gave no DS-1 Light indication.

4. Another warhead was installed in a different warhead section and after a T-304 Test indicated a normal condition, the assembly was mated to the same missile.

5. A rapid fire test was conducted and the warhead monitor light indicated GO. However, after approximately three seconds, the indication changed to NO-GO. Power was removed from the missile and the warhead was electrically disconnected.

6. A T-304 Test of the warhead resulted in a negative DS-1 Light indicating possible arming of the warhead Arm/Safe Device.

7. The cause of this incident has been attributed to a faulty missile Target Area Timer "TAT" safe and arm interlock. Replacement of the TAT permitted normal missile

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check out indications.

Incident #13: (U) DASA Code 504AK1

Date - 11 December 1961

1. A Mk 28 Y2 External War Reserve Bomb on an H-532 was damaged while being maneuvered into a paint spray building. The bomb struck another Mk 28 Bomb which had previously been positioned in the building, damaging the radome assembly and a rotating fin.

2. This incident was caused by improper handling procedures.

Incident #14: (U) DASA Code 509A01

Date - 11 October 1961

1. After a Mk 28 External/Retarded War Reserve Weapon was loaded on an F-101A Aircraft difficulty was experienced in safing the J-2 Arm/Safe Switching Plug. The weapon was downloaded from the aircraft and returned to the maintenance building.

2. Inspection revealed that a depression approximately 2 X 3 inches in the aft section of the weapon between the lower fins caused the difficulty in functioning of the J-2 Plug. It was concluded that the dent was caused by contact of the weapon with an MB-5 Cradle when the aircraft was moved during tire rotation. (The MB-5 Cradle is placed directly under the weapon to facilitate removal of the weapon from the aircraft in the event of an aircraft fire).

3. Tentative corrective action consists of lowering the cradle to permit a minimum of six inches of clearance between the cradle and the weapon.

Incident #15: (U) DASA Code 511DJ1

Date - 20 November 1961

1. After a Mk 28 Mod 0 War Reserve Weapon was loaded in the left hand position on a B-66B Aircraft, a crew chief observed that the D-7B Shackle Lock Pin was binding and made a decision to replace the shackle following the loading of the right hand weapon.

2. When the loading operation on the right hand weapon was completed, the hoists were repositioned and the A-2 Sling and conduit protectors were installed on the left hand weapon. The weapon was hoisted sufficiently to clear the suspension hooks on the racks and permit removal of the D-7B Shackle and the shackle exchange was completed.

3. During the above operation the CF-1398 Cable Assembly and arming rods had not been disconnected from the weapon. However, the routine inspection by the aircrew which included inspection of the pulse plug, revealed no discrepancies.

4. Using the appropriate check lists, power was applied and the power-on check was made. The T-249 Warning Light did not come on during the press-to-test step of the operation, but personnel stated that they smelled smoke. Aircraft power was removed immediately.

5. Inspection of the J-104 Pulse Plug indicated that the break pin had separated and that a 1/8-inch gap between the upper and lower portions of the plug had occurred which opened the monitor loop through the T-249.

6. The weapon was rejected because of possible activation of the T-Select Explosive

Switch Assembly. Activation of the switch cannot be ascertained by the T-304 Check.

7. Activation of MC-737 Explosives Switches can occur if power is applied through the pulse plug when the TA-TB Switch, T-338, is in the TB position.

8. The cause of this incident is attributed to human error, i.e., the CF-1398 Connector and pullout rod were not disconnected during the shackle exchange.

Incident #16: (CFRD) DASA Code 516091

Date - 4 September 1961

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1. During an electrical storm, three Mace Missile Pads were struck by the same lightning discharge. A total of seven explosive squibs in the nose temperature control unit and hydraulic cycle unit of one missile were fired.

2. The Mk 28 Mod 1 War Reserve Warheads were electrically tested and visually inspected by AEC contractor personnel and no abnormal conditions were found.

Incident #17: (SRD) DASA Code 501C12

Date - 6 January 1962

1. A C-124 Aircraft carrying eight Mk 28 Y1 War Reserve Warheads and one Mk 49 Y2 Mod 3 War Reserve Warhead was struck by lightning. The aircraft was flying at an altitude of 9,000 feet between two thunderstorms which were approximately 10 miles apart. The lightning entered through the aircraft radome and emerged through the rudder. Observers noted a large ball of fire pass through the aircraft from nose to tail apparently following the hoist rails. The ball of fire was accompanied by a loud noise.

2. After landing, the weapons were removed from the aircraft and a T-304 Test was performed. No malfunctions were indicated.

3. The air was monitored with a T-290 with negative results.

4. The warheads were reloaded and the flight continued to its destinations.

Incident #18: (U) DASA Code 508B12

Date - 24 January 1962

1. The timer access door of a Mk 28 Y1 Mod 1 War Reserve Warhead was observed to be defective. The eyelet of the turnlock fastner would not engage because of a sheared rivet which holds the backup plate for the eyelet.

2. This damage was attributed to normal wear and tear.

3. An incident similar to the above was also reported from another location.

Incident #19: (U) DASA Code 510A12

Date - 30 January 1962

1. When an H-722 Fuze Shipping and Storage Container was opened at its destination, following a Railway Express Agency shipment, it was observed that the bolts securing the F28-2 Fuze to the container base were missing. This permitted the fuze to move freely within the container.

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2. Rough handling during shipment and failure to secure the fuze to the container base with the bolts provided were the factors causing the damage.

Incident #20: (SFRD) DASA Code 503AK1

Date - 12 December 1961

1. Three Mk 28 Y3 Mod 1 War Reserve Warheads were being transported on bolsters on a 40-foot float at a speed of approximately five-miles per hour. When the brakes were applied, one of the warheads moved forward into another warhead which shifted forward approximately one-foot where it struck the retaining plate on the forward end of the float.

2. The two warheads directly involved received superficial, repairable damage.

3. Cause of the incident was failure to use appropriate tie downs for the weapons in accordance with local operating procedures.

Incident #21: (U) DASA Code 507C22

Date - 26 February 1962

1. Due to insufficient slack in the Burton Whips, a Mk 28 Y1 External War Reserve Bomb was damaged during a ship to ship transfer when a sudden roll caused the weapon to strike the ships' rail. Subsequent slack in the transfer line caused the weapon to be immersed in salt water.

2. The weapon was recovered and transferred to another ship where a visual inspection revealed the following damage:

a. The MC-702 Antenna Radome Assembly was scratched exposing the fiberglass laminate.

b. The H-569 Radome Cover was ripped in several places.

c. The F28-0 Fuze received numerous gouges on the sides and bottom and a small amount of water was found inside.

Incident #22: (U) DASA Code 504A22

Date - 22 February 1962

1. During downloading of a Mk 28 Y2 Mod 1 War Reserve Weapon from an F-105 Aircraft, the J-104 Connector was separated and the S-1 Switch was extracted.

2. The cause of the incident is attributed to failure of the crew members to pull the cockpit teleflex handle which permits the pullout control assembly to follow the bomb down.

3. Cause of the incident is attributed to failure to follow the prescribed check list procedures.

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Incident #23: (U) DASA Code 507DK1

Date - 21 December 1961

1. After downloading of a Mk 28 Retarded External Mod 1 War Reserve Bomb from an alert aircraft, it was observed that the left side of the MC-934 Differential Pressure Inducer Cover was loose.

2. It is suspected that the damage occurred while the nose security cover was being installed.

Incident #24: (U) DASA Code 502A12

Date - 31 December 1961

1. Following the downloading of a Mk 28 Y3 Mod 1 Bomb from an alert F-105 Aircraft, inspection revealed that the threads were stripped on the top lift bolt hole for the lifting adapter on the side of the MC-706 Ballistics Case. This incident is being handled through Unsatisfactory Reports channels.

Incident #25: (S) DASA Code 509BK1

Date - 14 December 1961

1. During storage monitoring of an XM47 Warhead Section (Mk-31 Y3 War Reserve Warhead) the red NO-GO Lamp came on.

2. The site was evacuated for a 30-minute period after which the weapon was transferred to a maintenance van where both the adaption kit and warhead checked satisfactorily.

3. It was observed in subsequent testing operations that the warhead section checked out satisfactorily when the ambient temperature was in the vicinity of 67 degrees. However, when the section was tested in temperature environments of 15 degrees and 36 degrees the NO-GO Lamp came on.

4. The Mk 31 Warhead is considered operational and an investigation of the adaption kit is underway to determine the cause of this incident.

Incident #26: (U) DASA Code 513A12

Date - 22 January 1962

1. This incident involved an XM97E1 Warhead Section with a Mk 31 Y4 War Reserve Warhead mated to a Nike Hercules Missile. The trickle charge circuit of missile warhead battery number 1 was grounded in the P1X Quick Disconnect Cable on the launcher rail.

2. Cause of the ground is attributed to a kink in the cable about 10 inches from the P1X end. The kink caused the wire from Pin 21 to pierce its insulation and ground to the shield wire of pin 25. This in turn caused the wire from Pin F of P1 to Pin 1 of P2 in the W6F Cable to burn.

3. The warhead was not affected and remained in operational status.

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Incident #27: (U) DASA Code 512D12

Date - 8 January 1962

1. A Mk 102 Shape was manually released from the bomb bay of a P2V-7 Aircraft during a loading operation when the safetying pin (Douglas Aircraft #K4552634) was extracted.

2. Examination disclosed that when tension was applied to the manual release cable, the bomb shackle release lever would not always reseat when the tension was removed. Failure of the release lever to reseat causes the release of the weapon when the safety pin is removed.

3. Cause of the failure of the shackle to reseat is attributed to a slight difference in the diameters of the safety pin holes. Satisfactory operation was obtained only with the shackles having the smaller diameter safety pin holes.

4. It was observed that the pressure on the manual release cable was applied by the head of one of the technicians performing the loading operation at the number 1 position (lower Mk 102).

5. A suggestion has been made that Number 5 Taper Pins which have been found to function satisfactorily, be substituted for the Douglas Safety Pin and that the manual release cable be rerouted or properly housed to prevent tension from being inadvertently applied.

Incident #28: (U) DASA Code 505A22

Date - 7 February 1962

1. A Mk 39 Mod 1 Type 3 Warhead was slightly damaged during removal from the H-4056 Atomic Warhead Stand. The aft end of the warhead tilted upward striking the edge of the H-4056 Drum Assembly. The warhead protective cover MC-882 sustained a cut approximately 3/8-inch by 1/8-inch.

2. The incident was attributed to failure of the crew to properly attach the H-375-A Beam Sling and to observe that it had been attached in reverse.

3. The cause of the incident is attributed to lack of experience of the crew which was undergoing initial training with the damaged item.

Incident #29: (U) DASA Code 506A12

Date - 22 January 1962

1. The right front shear pad of an H-526 Bolster used with a Mk 39 Mod 2 Weapon was discovered to be damaged. The active rubber portion of the pad was torn in two places. The tears were approximately 1/16-inch deep by one-inch long and 1/4-inch deep by one-inch long.

2. Cause of the damage has not been determined.

Incident #30: (U) DASA Code 502B22.

Date - 12 February 1962

1. After downloading of a Mk 39 Y1 Mod 2 War Reserve Bomb from a strip alert aircraft, inspection revealed three popped rivets on the case seam at station 85.5.

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2. This particular weapon had been transported 21 times by MF-4 Trailer from the storage area to the air strip for an accumulated mileage of 151.2 miles.

3. The cause of this incident is suspected to be metal fatigue induced by the vibrations and shock encountered during the transfer operation by the MF-4 Trailer.

Incident #31: (U) DASA Code 509A12

Date: 25 January 1962

1. During conversion of a Mk 39 Mod 1 War Reserve Bomb to the warhead configuration the MC-690 Bomb Nose adhered to the bomb case after the bolts were removed.

2. An Airman was supporting the nose while another individual was attempting to break the paint seal which was holding the nose to the case.

3. When the nose separated from the case, the individual who was attempting to hold it in place was unable to do so. This placed an excessive strain on the CF-1270 Cable Connector, causing it to break.

4. The cause of this incident is attributed to human error.

Incident #32: (U) DASA Code 501B22

Date - 9 February 1962

1. The right rear wheel of an H-695 Bomb Hand Truck carrying two Mk 43 Bombs in double configuration, broke through the flooring of a flat bed truck causing the weapons to list sharply to one side.

2. The weapons were immediately chocked and righted by use of wheeled hand bars and loaded without further difficulty.

3. Cause of this incident was the inability of the flatbed floor to support the weight of the two weapons on the H-695 Bomb Hand Truck.

Incident #33: (U) DASA Code 516B12

Date - 22 January 1962

Due to a manual hydraulic pump malfunction, 1/2-pint of hydraulic fluid from the ASROC Launcher Loader Crane was spilled onto a Mk 17 Rocket Thrown Depth Charge.

Incident #34: (U) DASA Code 503A22

Date - 7 February 1962

1. During a loading drill, an ASROC Type 3 Missile was dropped three to four inches due to an improperly adjusted linkage in the hydraulic locking mechanism of the pivot head of the loader crane which resulted in unexpected elevation of the crane rail. It was decided to return the missile to its container.

2. While placing the missile in the container, the rammer rail was moved back to permit the lug-capturing jaws to clear the missile lugs and again the loader rail began to elevate. The aft lug capturing jaw was forced down onto the missile body raising the forward end of the missile a distance of three to four inches.

3. As the rammer rail moved aft, the forward missile lug cleared the forward

capturing jaw permitting the missile to fall back into the container.

4. Cause of the incident was malajustment of the hydraulic locking mechanism linkage.

5. A functional test of the loader crane immediately prior to a loading operation has been recommended.

Incident #35: (U) DASA Code 514B12

Date - 26 January 1962

1. Due to slight misalignment in elevation between the ASROC Loader Crane Rail and the guide rail of one cell of an ASROC Launcher, the aft end of the rocket motor of the Mk 17 Mod 1 Rocket Thrown Depth Charge became misaligned downward approximately one-inch causing the edge of the thrust neutralizer to snap out of rammer detent. This permitted the angled face of the rammer to override the edge of the thrust neutralizer before the rammer could be stopped.

2. This resulted in an apparent separation of the after end of the airframe clam-shells of approximately 1/4-inch.

3. Cause of this incident is attributed to misalignment of the loader crane rails and the #8 cell launcher guide rails during installation.

Incident #36: (~~SRD~~) DASA Code 513C71

Date - 24 May 1961; 19 June 1961; 8 August 1961

1. On the above dates, separate lightning discharges in the immediate vicinity of Atlas missile installations resulted in damage to various items of non-warhead equipment but resulted in no damage to the (b)(3):42 USC 2162 (a) Warheads involved. DTRA (b)(3)

2. The Launch Operations building and one missile box were subjected to direct lightning hits and some items of direct support equipment were damaged.

Incident #37: ~~(SFRD)~~ DASA Code 514C71

Date - 20 July 1961

1. A C-124 Aircraft with (b)(3):42 USC 2162(a) War Reserve Warheads in shipping configuration aboard, was struck by lightning. DTRA (b)(3)

2. Personnel in the cargo compartment were unaffected by the lightning discharge; however, an airman guard stationed near the aircraft ground cable was knocked to the ground.

3. Visual inspection of the warheads indicated no damage.

4. A prestorage inspection was performed on all of the warheads and no unusual conditions were noted.

5. The warheads were returned to operational status.

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Incident #38: (S/RD) DASA Code 515B12

Date - 30 January 1962

1. A pin socket of a Mk 54 Mod 0 War Reserve Warhead electrical receptical was pulled out when the warhead was electrically disassembled from a CAR 11 Missile.

2. The cause of this incident is attributed to design deficiency, i.e., the connector was not designed to withstand the frequent mating and damating operations required in the CAR 11 application.

3. A review of this incident to determine the cause and the remedial action necessary to eliminate this condition has been requested by the using agency.

Incident #39: (S/RD) DASA Code 5C1CK1

Date - 1 December 1961

1. Personnel at a Jupiter Missile site observed a lightning discharge which appeared to strike a missile directly or in the immediate vicinity of the missile. The discharge was followed minutes later by a second discharge which appeared to strike between the missile previously involved and a missile on an adjacent launch pad.

2. Inspection revealed that adaption kit channels one and two were open on both missiles and that the batteries of both adaption kits were defective.

3. Monitoring of the Mk 49 Y2 Mod 3 War Reserve Warheads indicated no tritium leakage.

4. The warheads were subjected to a post-mortem examination which disclosed that the isolation diodes in the warhead parallel firelines were burned out.

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 December 1961 through 28 February 1962

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	10	NSS	0	Logistical Air	1	Test	7
				Other Air	6		
Hoist, Cranes, Elevators (Fixed)	1	OSS	1	Rail	1	Maintenance & Inspection	5
Manual	3	SSF	0	Truck	2	Storage Inspection	2
TOTAL	14		1		10		14

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Accidents and Incidents During the Period 1 March 1962 through 31 May 1962

Incident #1: (SRD) DASA Code 50LA32

Date - 6 March 1962

1. A Mk 7 Mod 5E War Reserve Weapon, mounted on an M-65 Trailer, was being maneuvered manually into a storage igloo. The weapon contacted the wall of the igloo and sustained a 2-inch split in the radome assembly.

2. Cause of this incident is attributed to personnel error.

Incident #2: (SRD) DASA Code 505A32

Date - 8 March 1962

1. (b)(3):42 USC 2162(a) DOE b(3)

(b)(3):42 USC 2162(a) A crew member proceded to hand pump the bomb bay doors to what he thought was the OPEN position. However, the bomb bay door selector switch was in the CLOSE position and the doors began to close instead of open. Before the closing of the doors could be stopped, enough force was exerted by the doors to shear six rivets on the left spin tab.

2. Cause of the incident was attributed to personnel error.

Incident #3: (SRD) DASA Code 51532

Date - Unknown

1. Upon receipt of shipment of four Mk 7 Mod 7 War Reserve Bombs, inspection revealed the following defects and irregularities.

a. Bomb serial number 867959:

(1) CF-1665 Cable was crushed.

(2) A screwdriver was found loose in the MC-263.

(3) The inner insulation ring on the MC-132 was broken in four places.

b. Bomb serial number 877557:

(1) One detonator cable was not firmly secured to the detonator.

(2) Insulation was broken on the load coil.

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c. Bomb serial number 838578:

(1) An Allen Wrench was found lying loose in the MC-263.

d. Bomb serial number 771859:

(1) Cables CF-1201 and CF-1665 were crushed.

2. Cause of the damage is attributed to personnel error.

Incident #4: (S[redacted]) DASA Code 509D32

Date - 20 March 1962

1. After a Mk 7 Mod 7 War Reserve Bomb was downloaded from an alert aircraft, it was returned to the maintenance and inspection building for inspection and a final assembly test.

2. During removal of the tail for Piggyback storage, connector P-20 of the fin control cable became lodged in the tail quick disconnect mechanism. When the quick disconnect lever was moved, the locking ring chipped the connector.

3. Cause of the incident was operator procedural error. Paragraph 9-2.1.4.1.1.2 of B7-1 requires that the tail be moved about 10-inches away from the bomb prior to disconnecting P-20 of the fin control cable from the J-20 receptacle.

Incident #5: (S[redacted]) DASA Code 513K42

Date - 24 April 1962

1. During retrofit of a Mk 15 Mod 0 Bomb, it was observed that the shear pins, AEC part number 153635-00, were not installed in the right or left pullout valve assembly, AEC part number 5136387-02 and 136390-02.

2. It has been determined that the pins were not inserted during Alt 206.

3. Cause of the incident is attributed to human error, i. e., failure to follow Technical Order 11N-B-15-514 which requires installation of the shear pins.

Incident #6: (S[redacted]) DASA Code 505D42

Date - 11 April 1962

1. During reservoir and valve change on a Mk 15 Mod 2 War Reserve Weapon, it was observed that the battery pack cover plate was bent. The upper right corner of the cover plate had been pulled back approximately 1/2-inch breaking the sealant and opening the cover very slightly.

2. Cause of this incident is attributed to misalignment of the afterbody during the previous assembly operation.

Incident #7: (S[redacted]) DASA code 516D32

Date - 29 March 1962

1. Two Mk 28 Y3 Bombs mated to an MHU-14/C Clip-in Subassembly were loaded aboard a B-47 Aircraft. After loading, it was found that the Arm/Safe Plug of the MC-711B interconnecting box on the weapons would not lock in the ARMED position nor could it be turned

to the SAFE position.

2. The rack containing the weapons was removed from the aircraft and a T-304B Continuity Test indicated lack of continuity in one weapon. The other weapon tested satisfactorily.

3. The fuze was removed from the defective weapon pending disposition instructions.

4. The cause was due to a defective Arm/Safe Plug.

Incident #8: (SRD) DASA Code not assigned

Date - 27 April 1962

1. A C-124 Aircraft with Mk 28 and Matador Warheads aboard was struck by lightning. The aircraft was flying at an altitude of 900-feet above the ocean and with radar assist was maneuvering to avoid clouds. The aircraft was in the clear between two cloud areas when struck. The lightning struck the nose section above the radome causing a loud report. The accompanying ball of fire remained outside the aircraft and disappeared off the left wing.

2. Inspection after landing revealed no damage to the aircraft or its cargo.

Incident #9: (SRD) DASA Code 502042

Date - 3 April 1962

1. After a strip alert a GAM-77, Houndog Missile, was returned to the maintenance facility.

2. Technicians who were standing near the Mk 28 Mod 1 War Reserve Warhead heard intermittant noises, apparently coming from the warhead, which was not being worked upon at the time.

3. Close observation indicated that the source of the noise was the interior of the warhead at a location near the tritium reservoir. The noise was intermittant over a period of approximately 30 seconds and then subsided.

4. T-304, T-290, and AMPDR 27 Tests revealed no unusual conditions.

5. The pressurized section of the warhead case was sampled, using a T-269 instrument, with negative results.

6. Since some question of reliability may be involved, the warhead will undergo a post mortem type examination.

Incident #10: (CNF) DASA Code 518032

Date - Unknown

1. Upon return of a Mk 28 Y2 Mod 1 War Reserve Weapon from alert status, inspection revealed that the parachute case had sustained a three sided fracture measuring approximately 1/2-inch on each of the three edges at the six o'clock position about half way from the tip of the cone.

2. Precise cause of the damage has not been determined. Personnel error in handling is suspected.

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Incident #11: (S-RD) DASA Code 501A32

Date - 4 March 1962

1. This incident involved a Mk 28 Mod 1 War Reserve Bomb aboard an F100-D Aircraft. An MA2 Power Unit was being used as a source of DC power. After the aircraft engine was started, the crew chief disconnected the DC Power Cable and the air start hose.

2. When the air start hose was released, the hose connector struck the MC-928, rear bomb subassembly, causing a dent 1/8-inch deep in the weapon skin.

3. Cause of the incident was personnel error, i. e., release of the pressurized air start hose.

Incident #12: (S-RD) DASA Code 501DA2

Date - 1 April 1962

1. The S-1 Switch and pulse plug were extracted from a Mk 28 Y3 Mod 1 Internal War Reserve Bomb during downloading from an F-105 Aircraft. The wiring harness of the MK-1 Dispenser caught on the bracket assembly of the pullout plug control and extracted the pullout plug and S-1 Switch after the weapon had been lowered approximately 6-inches.

2. The incident is attributed to improper stowage of the MK-1 Wiring Harness.

Incident #13: (S-RD) DASA Code 508A32

Date - 13 March 1962

1. A loading crew failed to disconnect the pullout retainer from the S-1 Switch prior to lowering a Mk 26 Y3 Mod 1 External Bomb from an F100-D Aircraft. The S-1 Switch was actuated.

2. Cause of the incident was personnel error.

Incident #14: (S-RD) DASA Code 511BA2

Date - 20 April 1962

1. During preflight of a B-52G Aircraft with a GAM-77, Hounddog aboard, the power off check was being made in the navigators compartment. The Number 1 Armament Warning light indicated ON during the press to test operation.

2. A check of the 28V Battery assembly indicated that the battery had been activated.

3. Post incident investigation revealed that all cockpit switches and release handles were in normal position and no stray voltages were observed in the missile.

Incident #15: (S-RD) DASA Code 512F52

Date - 9 May 1962

DNA (b)(3):42 USC 2162(a) DTRA (b)(3)

1. [redacted] warheads in H-534 Warhead Containers were being transferred on a flatbed trailer from one storage igloo to another. The warheads were tied down on the trailer in pairs.

2. When the tie down chain securing one pair of warheads was released, one warhead rolled off the flatbed and fell a distance of approximately four feet to the ground.

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3. Damage was confined to the top cover of the H-53L Container.

4. Cause of the incident was failure to comply with instructions contained in TP 45-51 for tie down of the H-53L Container. The container should have been placed upon blocks of sufficient height to keep the casters of the container from touching the trailer bed.

Incident #16: (S/RD) DASA Code 512B32

Date - 25 March 1962

1. The right front swivel caster of an H-423 Bolster carrying a Mk 36 Mod 2 War Reserve Bomb was damaged during removal of the weapon from a storage structure.

2. The unit was being towed by a 4,000-pound electric tug when it encountered a 1½-inch difference in elevation between the door threshold and the structure pad. The impact caused shearing of the bolt which secures the wheel to the plate of the caster assembly.

3. No further damage was sustained by the bolster or the bomb.

4. This incident was caused by impact of the bolster wheel with the concrete pad.

Incident #17: (S/RD) DASA Code 510F32

Date - 22 March 1962

1. During performance of Alt 208 on a Mk 39 Y1 Mod 2 War Reserve Bomb, the maintenance crew discovered that lead foil tape was covering the MC-832 Differential Pressure Switch.

2. Cause of the incident was personnel error, i. e., failure of the maintenance crew to remove the tape in a previous reassembly of the weapon.

Incident #18: (S/RD) DASA Code 506D42

Date - 12 April 1962

1. The rear afterbody, MC-1110, of a Mk 39 Mod 2 War Reserve Bomb was removed from the warhead using a manually operated hoist and the H-692 Adapter. After removal of the MC-1110, inspection revealed that the upper right corner of the MC-641 Thermal Battery Pack was bent and the seal broken.

2. Cause of the damage is attributed to personnel error in allowing contact between the flange on the inner surface of the MC-1110 and the MC-641 during removal of the afterbody.

3. An H-12 Dolly with sheet rubber padding on the tracks will be used in the future by the reporting activity to stabilize the MC-1110 during the removal operation.

Incident #19: (S/RD) DASA Code 507A32

Date - 9 March 1962

1. After downloading from a B-47E Aircraft, fin damage was discovered on a Mk 39 Y1 Mod 2 War Reserve Bomb. The lower left fin had sustained a dent approximately 1½-inches in length in the center of the top plate of the fin approximately 1-inch from the trailing edge and the edges of the fin adjacent to the dent area had been spread.

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2. The dent was apparently caused by forcing the fin protector forward. The precise cause of the damage has not been determined.

Incident #20: (S) DASA Code 50AK52

Date - 10 May 1962

1. A Mk 39 Mod 2 War Reserve Bomb was being downloaded onto a bolster from a B-47E Aircraft. After the pre-downloading procedures had been accomplished, the MHU-7/M was raised momentarily and then lowered. At this time the far side of the MHU-7/M Trailer dropped approximately six inches. The thrust pin was jarred from its seat and the weapon rotated approximately three inches in a counterclockwise direction on the bolster.

2. The trailer lifting arms and bolster were then leveled and the downloading was accomplished without further mishap. No damage was sustained by the weapon.

3. The cause of this incident is believed to be misalignment of the MHU-7/M which caused it to hang momentarily when lowered.

Incident #21: (S) DASA Code 507Fb2

Date - 14 April 1962

1. During a 30-day inspection of a Jupiter Missile (W49 Y2 Mod 3 Alt 202 War Reserve Warhead) the nose cone mounting bolts were sheared by firing of the primacord.

2. Activation of the primacord is attributed to stray voltage from an unknown source.

3. The re-entry vehicle was resecured by use of approximately 40 steel bolts. The missile was de-erected and the nose cone demated from the missile.

Incident #22: (S) DASA Code not assigned

Date - 23 March 1962

1. An XM22E1 (Mk 31 Y1) Warhead Section was being loaded by a forklift into a box car when it fell a distance of approximately 30-inches from the forklift tines to the ground.

2. Damage was apparently confined to the rear and forward body section of the XM22E1. The warhead will be returned to a modification facility for a complete post-mortem examination.

3. Cause of the incident is attributed to personnel error.

Incident #23: (S) DASA Code 510A52

Date - 7 May 1962

1. A Little John Rocket with an inert W45 Warhead was dropped from an XM34 Launcher rail during a night operation when the prime mover was inadvertently moved. The driver of the prime mover observed what he thought was a flashlight signal indicating that he move forward. Investigation revealed that the source of the signal was merely a man with a flashlight walking in front of the prime mover.

2. Damage to the warhead section consisted of shallow dents in the section surface.

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3. Cause of the incident is attributed to human error.

Incident #24: (redacted) DASA Code 509A52

Date - 7 May 1962

1. A Little John Trainer with a dummy XW-45 Warhead mounted on an XM-449 Cart was being towed by a 3/4-ton truck when the XM-449 Drawbar failed permitting the XM-449 to roll free into a ditch damaging the warhead section.

2. Damage to the warhead section consisted of a dent approximately 1/2-inch deep at Station 31, 90 degrees clockwise from the top of the warhead.

3. The cause of the incident is attributed to the inherent weakness of the aluminum drawbar and lack of safety chains bypassing the drawbar.

Incident #25: (redacted) DASA Code 509D42

Date - 17 April 1962

1. During a warhead mating exercise involving a Mk 7 Mod 2 Training Warhead and a Corporal Missile an assembly crew member connected missile cable P-505 incorrectly. The plug was improperly oriented and was forced into its receptacle shorting out the contacts.

2. The damage was restricted to the plug and contacts.

3. Cause of the incident was human error.

4. It has been recommended that the P-505 Connectors on the training warheads be modified to provide the same type of connectors currently being used on XW34 Warhead Sections.

Incident #26: (redacted) DASA Code 503A42

Date - Unknown

1. During an annual inspection of an XM50 Atomic Demolition Munition, it was observed that the XM23 Dummy Detonator bridgewires had been fired.

2. Investigation of the circumstances under which the detonators were fired is not complete.

Incident #27: (redacted) DASA Code 503H52

Date - Unknown

1. An M423, 8-inch Training Projectile was being transported over rough terrain on an M109 Van when the webbing and wood support which holds the training projectile in a vertical position failed. The container sustained a hole approximately 1/2-inch in diameter approximately 10-inches from the top of the container.

2. Cause of the incident is attributed to equipment failure.

Incident #28: (redacted) DASA Code 503B32

Date - 9 March 1962

1. Due to unexplained activation of a bank of sprinkler heads in a shipboard atomic

weapons storage compartment, approximately 30-gallons of salt water and oil were discharged onto Mk 28 and Bear Weapons.

2. The weapons involved were given complete inspection and no damage was observed.

Incident #29: (S-RD) DASA Code 511D52

Date - 24 April 1962

1. A Mk 102 Training shape was dropped approximately 24-inches when the Mk 8 Hoist Cable parted during unloading of an S2F-1 Aircraft.

2. The trainer sustained a gouge in the skin about 1/4-inches X 1/2-inches X 1/32-inches deep.

3. The cause of the incident was attributed to a kink or cuts in the cable caused by a nick on the edge of the hoist roller.

Accident #30: (S-RD) DASA Code 502B52

Date - 8 May 1962

1. A Mk 102 Shape was jettisoned into deep water from an S2F-1 Aircraft after inadvertant release during a training mission.

2. The mission involved air crew training in approved check list procedures for special test purposes.

3. Following in-flight removal and reinsertion of the manual safety pin and the lock and relatch pin, the bomb rack released when the Douglas Safety Pin and the combination lock and relatch pin were again removed permitting the Mk 102 Shape to land on the torpedo bay doors. The shape was jettisoned by opening the torpedo bay doors.

4. Cause of the incident is attributed to inadvertent tripping of the manual release cable when the Douglas Safety Pin and/or latch pin was removed or reinserted. The safing pins were inserted in the outboard side of the rack. Visual access is not possible during flight and the operation was performed by feel.

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS
BY FUNCTIONAL ACTIVITY

1 March 1962 through 31 May 1962

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	3	NSS	0	Logistical Air	1	Test	5
				Other Air	4		
Hoist, Cranes, Elevators (Fixed)	4	OSS	0	Rail	0	Maintenance & Inspection	6
Manual	1	SSF	1	Truck	4	Storage Inspection	1
TOTAL	8		1		9		12

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Accidents and Incidents During the Period 1 June 1962 through 31 August 1962

Incident #1: (BRD) DASA Code 520-72

Date - 30 July 1962

1. A Mk 7 Mod 5 Training Weapon was loaded onto a Type VIII Pylon on an F100-D Aircraft. In the course of the cockpit power checks it was noted that the IFI OUT light was not lighted.

2. Upon removal of the weapon tail and IFI Cover Plate it was discovered that the IFI mechanism was jammed in the OUT position. The mechanism was unjammed by using the hand crank. When electrically exercised to the OUT position the mechanism jammed again.

3. The cause of this incident was attributed to material failure.

Incident #2: ( ) DASA Code 505-82

Date - 9 August 1962

1. During a storage inspection of a Mk 7 Mod 2 Training Warhead, Cable CC-601 was cut, exposing the conductors.

2. The damage resulted from misalignment of the "B" Skin during installation.

3. The cause was attributed to human error.

Incident #3: ( ) DASA Code 521-52

Date - 3 May 1962

1. A Mk 99 Training Weapon was being loaded on a P2V-7S Aircraft. As the aft suspension lug of the Mk 99 was being engaged in the aft suspension hook of the Mk 51 rack assembly, the carriage assembly in station #7 released and dropped from the bomb bay. It was observed that the safety locking handle was open and the spring and cotter key which held the handle in the locked position were not present. This caused sufficient stress upon the carriage assembly to shear the carriage plunger permitting the assembly to move sideways. The training shape dropped approximately two inches to the AERO 33B hydraulic back up truck.

2. The Mk 99 Shape sustained no damage.

3. The cause of release of the carriage assembly is not known.

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Incident #4: (U) DASA Code 507-62

Date - 12 June 1962

1. A Mk 15 Mod 2 War Reserve Bomb on an H-343 Bolster was being moved into a storage structure by a tug when the draw bar broke at the weld approximately six-inches from the bolster end of the bar.

2. The cause of the incident was defective welding of the steel draw bar.

Incident #5: (U) DASA Code 501-72

Date - 9 July 1962

1. A Mk 15 Mod 2 War Reserve Bomb on an H-343 Bolster was being positioned in an MHE-7/M Trailer using an electric tug. Due to a suspected malfunction of the electric tug, the driver decided to replace it with a gasoline powered tug.

2. During the replacement operation, which required approximately six minutes, the H-343 Bolster wheels sank approximately 1 1/2-inches into the asphalt paving.

3. Attempts to pull the bolster out of the asphalt resulted in breaking of the bolster tongue at the weld where the clevis mates to the bolster.

4. The cause of the incident was attributed to a defective weld in the clevis.

Incident #6: (CRD) DASA Code 501-62

Date - 1 August 1962

1. A Mk 27 Mod 1 Bomb sustained superficial damage during a ship-to-ship transfer at sea. The ships were pitching heavily due to rough seas causing the bomb to swing into the preventer.

2. Damage consisted of a bent upper right fin assembly and a four-inch bend in the rear case flange.

3. The cause of the incident was attributed to pitching of the ships in rough water.

Incident #7: (CRD) DASA Code 507-72

Date - 31 July 1962

1. Inspection of a Mk 28 Y2 Mod 1 War Reserve Bomb with a Mod 2 Fuze revealed cracked rivets at the base of the Ready/Safe Switch access door.

2. The cause of this incident was attributed to material failure and individual error. The access doors should not be permitted to fall free when unlatched to check the Ready/Safe Switch.

[redacted] [redacted]

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Incident #5: [redacted] DASA Code 502-62

Date - 1 June 1962

1. During a routine inspection of a clip of Mk 28 Y1 Mod 1 Internal War Reserve Weapons, a 3/16-inch deep by 5/8-inch long dent and a 1/8-inch tear were discovered on a fin spin tab. The damage resulted in rejection of the fin assembly.

2. The cause of the damage is unknown.

Incident #9: [redacted] DASA Code 502-62

Date - 2 August 1962

Similar to incident #5 involving a Mk 28 War Reserve Weapon.

Incident #10: [redacted] DASA Code 517-62

Date - 27 August 1962

Similar to incident #8 involving a Mk 28 War Reserve Weapon.

Incident #11: [redacted] DASA Code 527-62

Date - 30 August 1962

Similar to incident #8 involving a Mk 28 War Reserve Weapon.

Incident #12: [redacted] DASA Code 516-72

Date - 28 July 1962

1. An unlocked indication was received from a GAM-77, Houndog Missile mated to a B-52R Aircraft. The missile contained a Mk 28 War Reserve Warhead. After the aircraft landed, the indicator moved to an intermediate indication after shutdown power was reapplied.

2. The warhead was not damaged.

3. The cause of the incident was found to be a faulty microswitch or wiring.

Incident #13: [redacted] DASA Code 515-62

Date - 17 August 1962

1. During preparation for loading a Mk 28 Mod 1 External War Reserve Weapon on an F-100 Aircraft, excessive play was noted in the J-1 Plug. Investigation revealed a broken break pin.

2. The cause of the incident was believed to be inadvertent application of a side load to the J-1 Plug.

[redacted]

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Incident #14: (U) DASA Code 524-82

Date - 30-31 August 1962 (Exact time unknown)

1. A B-47E Aircraft in cocked configuration with a Mk 28 Y2 Retarded Internal War Reserve Bomb aboard was struck by lightning during a severe thunderstorm. Evidence of the lightning strike consisted of a broken HF Radio antenna and a hole in the canopy.

2. The bomb was not damaged.

Incident #15: (U) DASA Code 527-82

Date - 30 August 1962

1. After a Mk 25 Y3 Mod 1 War Reserve Bomb had been installed on an H-532B Bomb Truck, it was noted that two chocks (index number 31, figure 65, TP B28-4) were not properly tightened, tiedown straps were not secured, and bolts securing the unit to lifting adapters were not properly tightened.

2. Although it was improperly installed on the bomb truck, the weapon was not damaged.

3. Cause of the incident is not known.

Incident #16: (U) DASA Code 529-82

Date - Unknown

1. Inspection of a Mk 28 Y2 Mod 1 Retarded Internal War Reserve Bomb revealed minor damage consisting of dents in the RISC.

2. The dents were located in a longitudinal area extending from 14 to 27 inches to the rear of the rear coupling ring approximately 140 degrees from the top center line of the case section. Dents did not exceed a depth of 1/16-inch.

3. The cause and time of the incident are unknown.

Incident #17: (U) DASA Code 516-82

Date - 28 May 1962

1. During a post-load check of a Mk 28 Y3 Retarded External War Reserve Bomb aboard an F-100D Aircraft, the Arm/Safe Plug was extracted when it was returned from the Arm to Safe position.

2. The cause of the incident was failure of the Arm/Safe Plug retaining ring.

Incident #18: (U) DASA Code 516-82

Date - 23 August 1962

Incident was identical to Incident #17 but involved a Mk 28 Internal War Reserve Weapon

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aboard a B-52D Aircraft.

Incident #19: (S) DASA Code 509-82

Date - 7 August 1962

1. A Mk 28 Training Bomb, less tail assembly, was being downloaded from an FJ-4B Aircraft using an AERO 23 Bomb Truck and AERO 6A Cradle. Prior to releasing the bomb from the rack, the forward restraining strap on the AERO 6A was passed around the bomb forward of the forward carrying lug. The rear strap on the AERO 6A was not used. As the bomb was lowered from the release rack, it began to slide backward until it had completely cleared the bomb truck and came to rest on the concrete pad.

2. Damage to the bomb consisted of burring of the tail attaching threads, scratches on the bottom of the bomb and a damaged forward pullout plug.

3. The cause of the incident was failure to use both restraining straps of the AERO 6A and excessive tilting of the AERO 6A.

Incident #20: (SRD) DASA Code 515-72

Date - 25 July 1962

1. Two Mk 28 Mod 0 War Reserve Weapons mated to a MHU-14C Clip-in Subassembly were loaded into a B-47E Aircraft. Eight days later, the aircraft was uncocked for maintenance. During the post maintenance (cocking) checks, procedures requiring the Arm/Safe Plug of the MC-714B interconnecting box to be moved from the Safe to the Arm position could not be accomplished on one weapon. Aircraft wiring system was satisfactory.

2. Probable cause was malfunction of the MC-714B interconnecting box.

Incident #21: (S) DASA Code 514-72

Date - 19 July 1962

1. A Mk 28 Y2 Retarded External Bomb sustained superficial, locally repairable damage when the speed brake of an F100-D Aircraft extended.

2. The cause of the incident has not been fully determined, but is suspected to be a faulty speed brake control valve.

Incident #22: (S RD) DASA Code 513-72

Date - 16 July 1962

1. During loading of a Mk 28 Y4 Mod 1 War Reserve Weapon on an F-105 Aircraft, the lug assembly of the receptacle housing assembly did not properly engage the retainer assembly resulting in damage to the J-103 Plug.

2. Investigation of the cause of the incident indicated personnel error.

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Incident #23: [redacted] DASA Code 502-72

Date - 8 July 1962

1. After a Mk 28 Y4 Mod O External War Reserve Bomb was downloaded from an F-100D Aircraft, the unloading crew pulled the bomb into the speed brake disconnect rod of the Type VIIA Pylon damaging the J-104 Plug. The plug was bent to such a degree that it was rendered unserviceable.

2. The cause of the incident was human error.

Incident #24: [redacted] DASA Code 515-52

Date - 29 May 1962

1. During checkout of a Mk 28 Y2 Retarded External War Reserve Bomb aboard an F-101C Aircraft, the Arm Safe Plug could not be seated properly in the Safe position with the T-249 Power Switch turned to the "OFF" position. The plug was free to rotate to the Arm position with the T-249 power "OFF".

2. The cause of the incident has not been determined.

Incident #25: [redacted] DASA Code 518-52

Date - 29 May 1962

1. A Mk 38 War Reserve Warhead in an H-770 Container was picked up by a straddle carrier preparatory to movement to a maintenance building. The unit was raised too high by the straddle carrier arms, causing the H-770 Container to strike the straddle carrier cushion blocks.

2. Damage was confined to dents in the top of the H-770 Container.

3. This incident was attributed to personnel error.

Incident #26: [redacted] DASA Code 506-72

Date - 2 July 1962

1. During a FAT Test on a Mk 38 Mod O Warhead, the fault light came on in the recycle (P-2 Inspection) indicating an unauthorized ground. Tests indicated that nuclear safety was not degraded.

2. The cause of the incident is unknown.

Incident #27: [redacted] DASA Code 515-62

Date - 22 June 1962

1. During off-loading of two Mk 38 War Reserve Warheads in H-770 Containers from a C-124 Aircraft, the unloading crew noted that one H-770 had a criss-cross line of ripples and gouges from corner to corner. The other H-770 had a series of ripples and gouges across the center. Dents extended to a maximum depth of 1 1/2-inches.

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2. Damage was confined to the H-770 Containers.

3. The incident was attributed to improper tiedown of the containers in the aircraft.

Incident #28: [redacted] DASA Code 508-62

Date - 15 August 1962

1. During maintenance operations on a Mk 39 Y1 Mod 2 War Reserve Weapon, lead foil and streamers were discovered on the ports of the MC-832 Differential Pressure Switch Valves.

2. The cause of the incident was individual error, i. e., failure to comply with checklist procedures to TO 11N-B-1003.

Incident #29 [redacted] DASA Code 512-72

Date - 19 July 1962

1. During a general inspection of a Mk 39 Y1 Mod 2 War Reserve Bomb mated to an MHU-21/C it was observed that the cable assembly CF-1550 was damaged. Several wires of the CF-1550 were cut as a result of being crushed against the mounting bracket of the cable support assembly. Some strands of wire of several individual conductors were severed, but none of the conductors were completely severed.

2. The cause of the incident was personnel error.

Incident #30: [redacted] DASA Code 511-72

Date - 16 July 1962

1. During removal of the MC-1110, TR Bomb Subassembly, from a Mk 39 Mod 2 Warhead, it was observed that a wire in one of the 6 strands of the arming wire assembly was nicked and broken.

2. The cause of this incident is unknown.

Incident #31: [redacted] DASA Code 526-62

Date - 30 August 1962

1. Receipt inspection of a Mk 39 Mod 2 War Reserve Bomb revealed that both CF-1437 Coaxial Cables associated with the MC-1121 Assembly of the frangible nose section were crushed.

2. The damage was apparently caused by improper mating of the MC-1121 to the weapon. The damaged cables were squeezed between the mounting flange of the warhead subassembly and the machined portion of the MC-1121.

3. It is apparent that the nose section was attached to the weapon and torqued without regard for position of the CF-1437 Cables.

4. The cause of the incident is attributed to personnel error.

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Incident #32: (U) DASA Code 528-62

Date - 8 July 1962

1. Damage to the lower right fin of a Mk 39 Mod 2 War Reserve Bomb was observed after the bomb had been downloaded from an aircraft. The damage consisted of a torn trim tab.

2. The cause of the incident has not been determined.

Incident #33: (U) DASA Code 517-62

Date - 29 May 1962

1. Inspection of a Mk 39 Mod 2 War Reserve Bomb revealed that the shear pin in the left pullout valve had been sheared.

2. The cause has been attributed to material failure.

Incident #34: (U) DASA Code 508-62

Date - 11 June 1962

1. While performing a change of the retardation device in a Mk 39 Mod 2 War Reserve Weapon, the maintenance team discovered masking tape covering both ports on the pullout valve assemblies, MC-832.

2. Presumably the incident was caused by failure to remove the tape over the ports when the weapon was converted to Mod 2.

Incident #35: (U) DASA Code 504-62

Date - 7 June 1962

1. A Clark Gasoline Tug was being used to move a Mk 39 Y1 Mod 2 War Reserve Bomb on an H-508 Container into a maintenance structure.

2. After the bomb had been moved approximately 12-feet, the bottom half of the tug pintle hook twisted permitting the H-508 Tow Bar to become disengaged.

3. Immediate placement of chocks under the wheels stopped movement of the H-508.

4. The cause of the incident was failure of the tug pintle hook.

Incident #36: (U) DASA Code 504-62

Date - 7 August 1962

1. A Mk 39 Y1 Mod 2 War Reserve Bomb was exposed to a B-47E Aircraft engine fire but sustained no damage. The number four engine caught fire during an attempt to start it and dripping fuel caused a fire under the engine. The fire was promptly extinguished by the crew chief and the fire department.

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2. The bomb bay doors were closed at the time and damage did not extend to the bomb bay interior.

Incident #37: (U) DASA Code 503-62

Date - 6 June 1962

1. During inspection of a Mk 39 YJ Mod 2 War Reserve Bomb, it was noted that the parachute cover protruded 1 5-inch in excess of the allowable distance.

2. The cause of this defect has not been determined.

Incident #38: (U) DASA Code 510-62

Date - 8 August 1962

1. An inert Mk 43 Training Weapon mounted on an AERO 33C Bomb Truck was being removed from a bomb elevator aboard an aircraft carrier when an unexpected roll of the ship pivoted the bomb truck, causing the tail of the weapon to strike a parked bomb truck.

2. The lower right tail fin of the bomb was crushed and broken.

3. The cause of the incident was lack of brakes on the rear wheels of the AERO 33C Bomb Truck and inability of the handling crew to restrain the weapon.

Incident #39: (U) DASA Code 514-52

Date - 27 May 1962

1. The speed brakes of an F-100D Aircraft dropped during a daily aircraft runup, causing paint damage to the skin of a Mk 43 Mod 0 War Reserve Weapon. Efforts of the crew to stop the brakes by actuating the control switch to the UP position failed.

2. Cause of the brake failure was attributed to a faulty speed brake actuator valve.

Incident #40: (U) DASACode 511-62

Date - 15 June 1962

1. A Polaris A2P Missile with a Mk 47 Mod 1 War Reserve Warhead installed was dropped a distance of about 1-inch as the missile was raised from the missile launcher tube support ring.

2. The incident was caused by failure of a cable in the Mk 1 Mod 0 Missile hoisting unit.

3. The warhead was not damaged.

Incident #41: (SRD) DASA Code 510-72

Date - 19 July 1962

1. During an electrical storm an SM-78, Jupiter Missile nose cone containing a Mk 49 Mod 3

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Warhead, was damaged by a lightning strike.

2. Exterior damage to the nose cone consisted of removal of ablative material in a section 2 1/4-inches by 1 1/4-inches by 3/4-inches deep.

3. The AK-1 and AK-2 Lights in the electrical equipment trailer were observed to be red indicating that channel 1 and 2 fire lines were open.

4. Air monitoring (T-290) indicated the presence of tritium gas and activation of (b)(3):42 USC 2162(of the reservoir valve was observed in post-mortem test at an AEC facility. DTR bC

Incident #42: (S/RD) DASA Code 512-82

Date - 17 August 1962

1. An SM-75, Thor Missile (Mk 49 Y2 Mod 3 War Reserve Warhead) was undergoing an OFSS Check during which the pre-arm indication light on the reentry vehicle similator failed to light.

2. During recheck of the missile, two retro-rockets and three (b)(3):42 USC 2162(a) red. After evacuating the pad, the launch pad personnel returned and found that the latch safety pins were holding the reentry vehicle in place. DTRA bC3

3. The warhead was not damaged.

4. The cause of the incident was failure to follow prescribed safety rules for the Thor Missile.

Incident #43: (S/RD) DASA Code 512-62

Date - 18 June 1962

1. After the warhead wiring harness was disconnected from a Mk 54 Mod O War Reserve Warhead (GAR-11) it was observed that Pins A and L of P-2051 were pushed back into the base of the warhead wiring harness.

2. The cause was suspected to be an obstruction in the warhead connector plug.

Incident #44: (S/RD) DASA Code 525-82

Date - 23 August 1962

1. A transponder control group air leakage test was being conducted on a Nike Hercules Missile containing a Mk 31 Y4 Mod O Warhead. During the test procedures when the pressure on the transponder control group reached 16 psig, the cover blew off hitting the transponder control group cable and the forming ring on the warhead skin at station 87.5.

2. Damage consisted of cut insulation on the transponder group cable and dents in the forward face of the cartridge assembly near J-3 and J-4 Plugs.

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Incident #45: (C) DASA Code 522-82

Date - 23 August 1962

1. Upon completion of a training exercise involving an atomic demolition charge, XM60 with an inert Mk 7 Mod 2 Warhead the test team safed the weapon but failed to safe the T6E1 Long Delay Mechanical Timers. (b)(3):42 USC 2162(a) DTRA (b)(3)

(b)(3):42 USC 2162(a)

2. The cause of the incident was failure to follow the prescribed check lists.

Incident #46: (U) DASA Code 501-62

Date - 1 June 1962

This incident was similar in nature to incident #45 above. Investigation of the cause is being conducted.

Incident #47: (U) DASA Code 519-82

Date - 21 August 1962

1. An XM99 Atomic Warhead Section (XW45 Training Warhead) was being transported on an M14 Rocket Cart towed by a 3/4-ton Prime Mover. Due to the slippery condition of the road, caused by heavy rains, the prime mover slid to the left when the driver applied the brakes, causing the right bumperette of the vehicle to contact and snap the lunette of the cart.

2. When the cart fell free, the rocket traveling clamps exerted excessive pressure on the warhead skin causing damage in addition to that sustained when the round struck the rear of the 3/4-ton vehicle.

3. The damage consisted of three dents in the section and bending of the safing device.

4. Further damage was prevented by the presence of safety chains which halted the cart's movement.

Incident #48: (U) DASA Code 514-62

Date - 18 June 1962

1. During storage monitoring of an Honest John Warhead Section (XM48), with a Mk 31 Y2 Warhead, an incorrect lamp indication was obtained. The warhead was normal.

2. The defect was located in the XM-1 Subassembly of the adaption kit.

3. The warhead was not damaged.

Incident #49: (U) DASA Code 511-82

Date - 15 August 1962

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1. During disassembly of an XM391, 279 mm Atomic Training Projectile, the H-4179 Sling broke immediately above the locking pin where the weld is located.

2. No damage occurred as the projectile was supported by the other side of the H-4179 Sling.

3. The cause of the incident is attributed to lack of instructions for load-testing of the H-4179 Sling.

Incident #50: (U) DASA Code 505-62

Date - 7 June 1962

1. The driver of an M-109 Van fell asleep, causing the vehicle, containing an inert Mk 19 M369 Projectile, to leave the road and overturn in a ditch.

2. The damage to the projectile assembly was limited to minor dents and scratches.

3. The cause of the incident was personnel error.

Incident #51: (U) DASA Code 523-82

Date - 24 August 1962

1. A Nike Hercules (Mk 31 Y1 Mod O War Reserve Warhead) had been disconnected from the magazine test station and was being moved above ground to permit another missile to be moved into position for refueling. All test power had been disconnected.

2. While the missile was on the elevator, smoke was observed coming from the warhead section.

3. The left access door was opened and smoke was detected in the area of the W6F Cable. Disarming procedures were employed and a fire extinguisher was used at the source of the smoke.

4. Examination of the missile revealed that the number 1. BB 401 Battery had discharged to ground through the W6F Cable, charring the cable.

5. It was observed that shield wires number 1 and 2 on the terminal board were burned, and there was evidence that this could have been caused by contact with 120 Volt power in wire C333 MB 16.

6. Pin d of J-145 showed evidence of pitting which could have been caused by an external short or an internal short in the junction box.

7. The warhead was not damaged.

Incident #52: (U) DASA Code 506-62

Date - 7 June 1962

1. During a joining operation, a training Nike Hercules Missile containing an inert Mk 31 Warhead was raised 45 degrees and then lowered. After the T-Hook assembly and the seating of the

missile in the thrust structure had been checked, the launcher was elevated to maximum position. At this time, the booster fin fitting assembly broke and the missile and booster slid down the launching rail and rested on the ground in a vertical position.

2. The warhead was not damaged.

3. The cause of the incident is being investigated.

STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS BY FUNCTIONAL ACTIVITY

1 June 1962 through 31 August 1962

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	1	NSS	0	Logistical Air	0	Test	14
				Other Air	6		
Hoist, Cranes, Elevators (Fixed)	2	OSS	0	Rail	0	Maintenance & Inspection	13
Manual	4	SSF	1	Truck	7	Storage Inspection	5
TOTAL	7		1		13		32

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Accidents and Incidents During the Period 1 September 1962 through 30 November 1962.

Incident #1: (U) DASA Code 501K92

Date - 3 September 1962

1. After downloading of a Mk 7 Mod 5 War Reserve Bomb from an F-84F Aircraft, one of the safing wires was found to be extracted from the weapon.

2. The wire was reinstalled and the weapon was returned to storage.

3. The cause of the incident was human error.

Incident #2: (U) DASA Code A 508-112

Date - 7 November 1962

1. During unloading of an XM35 (Mk 7) Training Warhead from a cradle, the end of the P805 Plug caught on the lower edge of the cradle rear cross member causing the pins of the P805 to bind and become loose in their socket and a small segment of the P805 connector lip was broken off.

2. The cause of the incident was attributed to a recent modification of the P805 Plug which extended the plug 1/32-inch beyond the flange.

Incident #3: (U) DASA Code 508E102

Date - 13 October 1962

1. A Boar weapon (Mk 1 Mod 0 30.5-Inch Rocket) mounted on an AERO 33C Bomb Truck was being raised by a shipboard elevator when the bomb truck shifted causing the rear end of the weapon to be caught between the deck and the elevator platform. The weapon tail failed to clear the deck by approximately 1/4 inch.

2. The rear end of the booster was displaced downward approximately 3 inches causing the rear of the midsection assembly to be torn loose at the top and crushed at the bottom. The transverse structural casting at the forward end of the midsection assembly was sprung and cracked at the top where the bolts holding the booster mounting bracket had pulled through. Dents were sustained in the bottom of the midsection assembly where the assembly rested on the AERO 33C Bomb Truck.

3. The cause of the incident was attributed to personnel error in that improper tie down of the bomb truck on the elevator resulted in shifting of the weapon when the elevator moved.

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Incident #4: (U) DASA Code 513D102

Date - 17 November 1962

1. A Boar Weapon with a Mk 7 War Reserve Warhead was slightly damaged in a shipboard elevator accident. The elevator with the Boar on an AERO 33C Bomb Truck dropped approximately 6-7/8 inches when the elevator jamming rollers engaged causing the elevator to halt abruptly. The abrupt stop caused dents in the weapon chocking area.

2. The weapon was withdrawn from use pending necessary repair and inspection.

Incident #5 and #6: (U) DASA Code 511D102 and 512D102

Date - 23 October 1962 and 24 October 1962

1. On two separate occasions S-1 Pullout Switches of Mk 28 War Reserve Bombs were extracted or damaged as a result of failure to disconnect the pin and clevis connecting the pullout switches to F100-D Aircraft prior to weapon downloading.

2. The cause is attributed to personnel errors.

Incident #7 and #8: (U) DASA Code 501F112 and 502F112

Date - 2 and 4 November 1962

1. On two different occasions two airborne B-52 Aircraft with Mk 39 Mod 2 and Mk 28 Y1 Weapons aboard were struck by lightning. Subsequent tests indicated that no damage was sustained by any of the weapons involved.

Incident #9: (U) DASA Code 502D92

Date - 4 September 1962

1. Superficial damage to two Mk 28 Y2 Retarded Internal Mod 1 War Reserve Bombs was observed after the bombs were downloaded from separate B-47E Aircraft.

2. The damage consisted of 3 dents approximately 1/32-inch deep by 1 inch in diameter in the MC-1113 TR tail and a minor crease between two of these dents in both weapons.

3. The cause of the incident was attributed to failure of the loading crew to follow instructions on page 6 and 7 of T.O. 1B-47B-CL-14-1 which require that the dovetail support posts of the MHU-19/E be raised and secured in the highest position on the cradle and be positioned as indicated in steps 16 or 17 for the applicable bomb.

Incident #10: (U) DASA Code 505C92

Date - 13 September 1962

1. A Mk 28 Internal War Reserve Bomb in the upper left position on an MHU-20/C Clip in subassembly was being disarmed when the bail latch of the arm/safe plug broke.

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2. The cause was attributed to material failure.

Incident #11: (U) DASA Code 504C92

Date - 6 September 1962

1. In preparation for mating of a Mk 28 Warhead with an MC-1477 Case Section, an attempt was being made to sever the textile tape which secures the cables of the MC-1367 Interconnecting Box. A pocket knife used to perform the operation slipped and cut through the covering of the conductors in one of the cables.

2. The cause of the incident was attributed to personnel error.

Incident #12: (U) DASA Code 515E102

Date - 11 October 1962

1. During a periodic check of a Nike Hercules Missile (Mk 31 Warhead), on a launcher rail the P72 Cable was observed to be smoking. The P72 Cable head and the J72 Receptacle of the test station adjacent to the launcher were burned.

2. The cause of the incident was attributed to the presence of moisture in the P72A.

3. The Mk 31 Warhead was not damaged.

Incident #13: (U) DASA Code 516F102

Date - 15 October 1962

1. A Nike Hercules Missile with a Mk 31 War Reserve Warhead was undergoing a weekly acquire and command check when the odor of burning insulation was noted. Inspection indicated that the W6F Cable was partially burned.

2. The cause of the incident was determined to be a short in the battery charge circuit.

Incident #14: (U) DASA Code A 504-112

Date - 11 November 1962

1. During a storage inspection of a Nike Hercules Missile (Mk 31 Warhead) a short occurred in the heater blanket. Isolation procedures were performed and upon removal of the battery box, it was observed that the blanket was charred.

2. Emergency disarm procedures were performed immediately and required checks indicated that the weapon was in a safe condition.

3. Tests are being conducted on the BB 401/4 batteries and the heater blanket to determine the cause of the incident.

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Incident #15: (U) DASA Code 506K102

Date - 8 October 1962

1. A Mk 105 Training Weapon was being off loaded from an A4D Aircraft. During the lowering operation the pull out ball snagged on the retention bracket of the AERO 7A Rack and was extracted from the weapon.

2. The weapon was not damaged.

3. The cause of the incident was failure of personnel to insure that the pull out ball was free from any protrusions on the AERO 7A prior to lowering the weapon.

Incident #16: (U) DASA Code 503F102

Date - 19 October 1962

1. The collapse of the LOX Tank of an Atlas Missile caused the re-entry vehicle containing a W-38 War Reserve Warhead to tilt against the work platform resting at an angle of approximately 40 degrees to the platform.

2. A temporary sling made of two compression rings and the lower half of the re-entry vehicle cradle were used to remove the re-entry vehicle.

3. The re-entry vehicle sustained only superficial damage consisting of slight scratches in the ablative material. The warhead was not damaged.

Incident #17: (U) DASA Code 505D112

Date - 17 November 1962

1. During a functional check-out of a Mk 39 Y1 Mod 1 War Reserve Weapon, in a BLU/2 Pod, a malfunction was indicated when the arming and fuzing monitor test switch was pressed.

2. Power was turned off and a complete check of all warhead and arming container connections and components was made. The check revealed that plug J-371-1 appeared to be binding. The plug was properly installed and the check out was resumed at the step where the malfunction was observed.

3. This time, in addition to the malfunction indication, a distinct odor was detected. Power was immediately disconnected and inspection disclosed that the low voltage battery pack had been activated.

4. Inspection by EOD personnel indicated that all safing and arming devices were in the safe position. Tritium monitoring was performed with negative results.

5. Subsequent investigation revealed a piece of wire in the input plug to the low voltage thermal battery which shorted the monitoring line to the squib line. Since the firing bars was closed, the output of the low voltage thermal battery was impressed upon the warhead trigger circuit.

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6. The wire in the input plug is considered to be the cause of the incident. The investigation is continuing.

Incident #18: [redacted] DASA Code 509F102

Date - 8 October 1962

1. In preparation for a weapon assembly operation involving the postmating T-4077 test of an XM13 Warhead Section (W40Y1 Warhead), fault readings were obtained.

2. Power was turned off immediately, personnel were evacuated and the assembly area was monitored for tritium with negative results.

3. Visual inspection of the warhead revealed that Pin C of the J-2 Connector of the warhead was bent 90 degrees between Pins B and P.

4. Analysis indicated that Pin C of the J-2 Connector was bent during mating of P-13 of the W4J Cable to the J-2 Warhead Connector.

5. The warhead was rejected.

Incident #19: [redacted] DASA Code 505D102

Date - 8 October 1962

1. Post-load checks were being performed on a Mk 43 Y3 Mod 0 War Reserve Bomb aboard an F-101A Aircraft. When the DCU-9/A control selector switch was turned from the OFF to the SAFE position, the warning light illuminated dimly and shortly thereafter the DCU-9/A circuit breaker opened.

2. The aircraft wiring system was checked and no irregularities were observed. An electrical continuity test indicated suitable continuity in the warhead.

3. Post-mortem of the bomb revealed that the malfunction was caused by a bent pin in J-3 of the MC-988, breakaway pulse connector, which resulted in 28 volt aircraft power passing through the DCU-9/A monitoring circuit.

4. The cause of this incident was attributed to the bent pin in J-3 which shorted in the plug. Evidence indicates that bending of the pin was a one time incident.

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STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS BY FUNCTIONAL ACTIVITY

1 September 1962 through 30 November 1962

HANDLING		STORAGE		TRANSPORTATION		OPERATION	
Material Handling Equipment (Mobile)	2	NSS	0	Logistical Air	0	Test	4
				Other Air	6		
Hoist, Crane, Elevators (Fixed)	2	OSS	0	Rail	0	Maintenance & Inspection	4
Manual	0	SSF	0	Truck	0	Storage Inspection	0
TOTAL	4		0		6		8

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ACCIDENT - INCIDENT SUMMARY

1 January 1960 through 31 December 1962

TYPE	NUMBER	PERSONNEL ERROR	EQUIPMENT MALFUNCTION	OTHER (Natural Causes etc.)	PERCENT PERSONNEL ERROR
Handling	57	41	15	1	72%
Logistical Movement	39	22	11	6	56%
Aircraft Loading	46	27	18	1	59%
Aircraft Down Loading	36	28	8	-	78%
Missile	33	3	18	12	9%
Launching System	24	5	16	3	21%
Aircraft	47	16	25	6	34%
Maintenance	151	88	59	4	58%
Other	17	8	3	6	47%
TOTAL	450	238	173	39*	53%

*25 lightning.

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Accidents and Incidents During the Period 1 December 1962 through 28 February 1963

Incident #1: (S) DASA Code 509-112

Date - 21 November 1962

1. A BOAR weapon (30, 5-inch Rocket) with a training warhead was positioned on an aircraft. During Step 9 (m) of the postload test, the fin circuit breaker functioned. A loading crew member pushed the circuit breaker twice, at which time smoke was observed to be coming from the weapon.

2. Inspection indicated that insulation on the CF-3001 Cable was burned along its entire length. The cause of the apparent short circuit is unknown.

3. The cause of the incident was personnel error. The reason for opening of the circuit breaker should have been determined prior to reclosing the breaker.

Incident #2: (S) DASA Code 510-13

Date - 27 January 1963

1. During an aircraft postload test, the Arm/Safe Switch and the IFI of a Mk 7 training weapon were activated, i.e., the Arm/Safe Switch stepped to the ARM position and the IFI operated to the IN position.

2. The incident was attributed to personnel error, i.e., inadvertent, momentary rotation of the T-208A, Aircraft Monitor and Control Box, selector switch.

3. The weapon was safed by actuation of the IFI to the OUT position and by manually returning the weapon Arm/Safe Switch to the SAFE position.

4. A future modification of the T-208A to the T-208B will greatly reduce the possibility of inadvertent arming.

Incident #3: (S) DASA Code 506-112

Date - 16 November 1962

1. A BOAR weapon (Mk 4 Mod 0) with an inert training warhead was loaded on an AD6 Aircraft during a readiness exercise. At Step 9(d) of the postload test of NAVWEPS 01-40 ALF-17 BOAR AD/7, the DS302 and DS303 lamps lit when the aircraft power switch was placed in the ON position.

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2. Power was removed, the weapon was removed from the aircraft, and a final assembly test was performed. The Mk 186 fuze was found defective, i.e., the DS302 and DS303 lamps on the junction box and the TO reset light on the T-3003 all lit and the timer motor ran when power was applied.

3. Evaluation of the incident revealed that the probable cause was release or removal of the safing pin after the weapon had been assembled to CAS and subsequent functioning of the pullout switches.

Incident #4: (U) DASA Code 510-112

Date - 25 November 1962

1. Unexplained activation of the sprinkler system for a short period of time in the weapons storage compartment of an aircraft carrier resulted in wetting of the security covers of Mk 7, Mk 27, and Mk 28 weapons. The weapons were not affected by the salt water. Salt deposits were removed from the security covers by fresh water washdown.

2. The cause of the incident was a faulty sprinkler valve.

Incident #5: (U) DASA Code 509-23

Date - 8 February 1953

A Mk 7 Mod 5E inert training Bomb was jettisoned from an A4C Aircraft into deep water. The aircraft settled after being catapulted, making it necessary to jettison the bomb and fuel tanks to maintain altitude.

Incident #6: (U) DASA Code 505-122

Date - 8 December 1962

1. When the P106 and P206 Cables of an M35 Training Warhead Section were connected to the battery box, it was observed that the phenolic inserts of the battery box were damaged.

2. The cause of the damage was attributed to fair wear and tear, i.e., repeated connections and disconnections of the cables.

Incident #7: (U) DASA Code 502-13

Date - 15 December 1962

1. Inspection of a Mk 7 Mod 2 Training Warhead used with a training M60 Atomic Demolition Munition revealed a crack in the head of the (b)(3):42 USC 2162(a) 1E23 Detonator. DTRA (6X3)

2. Possible cause of the damage was extreme environmental conditions. The detonators have been returned to a laboratory for analysis and determination of the cause.

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3. The cause of the arcing was attributed to RF radiation from an antenna at a distance of 16 feet from the weapon. Transmission frequency was (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a)

4. During the initial arcing between the bomb lug and the rack hook, the CF-1409 pullout cable was connected from the aircraft to the weapon and the aircraft was grounded.

DTRA (b)(3)

5. During future aircraft loadings, transmission of (b)(3):42 USC 2162(a) will be interrupted.

DTRA b(3)

Incident #11: (U) DASA Code 509-122

Date - 29 December 1962

1. A Mk 28 Mod 2 War Reserve Warhead installed on an H-532 Bomb Hand Truck was being unloaded from a flatbed trailer with an H-563 Beam Type Sling and a fork lift. When the H-532 was about four inches above the concrete apron, a bolt in the H-563 became disengaged allowing the H-532 to drop.

2. Damage consisted of a broken right rear caster on the H-532 and two superficial dents in the rear dust cover.

3. The cause of the incident was material failure.

Incident #12: (U) DASA Code 510-23

Date - 8 February 1963

1. A Mk 28 Y3 External Bomb on a Bomb Truck was positioned on an aircraft carrier elevator in preparation for delivering to the flight deck.

2. A large wave over the elevator drenched the weapon with salt water and damaged a nearby aircraft causing JP-5 fuel to spray over the weapon exterior.

3. The weapon sustained no damage and after cleaning and testing was returned to operational use.

4. The incident was caused by the sea water striking the elevator.

Incident #13: (U) DASA Code 507-122

Date - 19 December 1962

1. The warhead reinforcing ring, Part Number 173737-01 of a Mk 28 Y2 Mod 2 War Reserve Weapon was observed to be broken in the vicinity of the MHU-20/C Sway Brace.

2. Close examination of the reinforcing ring indicated an apparent internal flaw in the metal at the point of breakage.

3. The cause of the incident was considered to be material failure.

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Incident #14: (C) DASA Code 502-122

Date - 5 December 1963

1. A general inspection and test of a Mk 28 Y3 Mod 1 War Reserve Bomb revealed excessive moisture in the Mk 28 Mod 1 Fuze. Approximately 1/2 pint of water was removed from the fuze. The fuze passed a T-304 test and warhead pressure was satisfactory.

2. The cause of the incident is unknown.

Incident #15: (C) DASA Code 508-23

Date - 16 January 1963

1. Incidents #15 through #19, involving Mk 28 Bombs and Warheads follow the same pattern. After the weapons had been airborne in aircraft and returned, unit pressure checks indicated negative pressure or serious loss of pressure to a positive level.

2. The cause of these incidents is attributed to material failure, i.e., defective pressure seals or valves.

Incident #16: (C) DASA Code 505-13

Date - 11 January 1963

Refer to Incident #15.

Incident #17: (C) DASA Code 508-13

Date - 24 January 1963

Refer to Incident #15.

Incident #18 and #19: (C) DASA Code 503-122

Date - 12 December 1962

Refer to Incident #15.

Incident #20: (U) DASA Code 508-122

Date - 20 December 1962

1. An XM48, Honest John Warhead Section was being placed in a storage bunker. As the M405 handling unit was being disconnected from the M78A1 heading and tiedown, the M405 handling unit was pulled forward too far causing the landing jack to become unbalanced. The M405 eased forward to the ground. The front shoe assembly on which the warhead portion of the warhead section was located caused a dent approximately 1/4-inch deep and 5-inches long near station 100.

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2. Electrical checks indicated that the warhead was not damaged.

3. The cause of the incident is attributed to personnel error.

Incident #21: (U) DASA Code 511-112

Date - 20 November 1962

1. A daily check of a Nike Hercules Missile (Mk 31 War Reserve Warhead) revealed that the lamp in the Number 2 BB/401 battery charging circuit was out. The bulb was replaced twice but burned out on each occasion.

2. After removal of the batteries, investigation revealed that the W6F Cable had shorted and burned.

3. It was determined that a short between pins 23 and 13 of connector P1X was caused by 180 degree rotation of the P1X cable which caused a strain on the cable approximately nine inches from the connector.

Incident #22: (U) DASA Code 506-122

Date - 14 December 1962

1. During the prefire lamp test of an XM47 Warhead Section (Mk 31 War Reserve Warhead), the No-Go lamp lighted. After disarming procedures had been performed, the warhead and the adaption kit were tested separately and found to be acceptable. The warhead section was reassembled and a retest indicated that both were acceptable.

2. The cause of the incident is not known.

Incident #23: (U) DASA Code 503-23

Date - 10 January 1963

1. After completion of maintenance and repairs to a Nike Hercules launcher power cylinder, personnel tested the launcher by erecting it. During the Up cycle, the launcher stopped and then restarted and continued to the locked position.

2. After the erection cycle had been completed with the launcher and Nike Hercules Missile (Mk 31 War Reserve Warhead) in the raised position, it was noted that the missile had become disengaged from the launcher rail. The launcher was lowered and the following was noted:

a. The warhead section "T" track assembly was disengaged from the yoke assembly of the launching rail and was resting on top of the yoke assembly clevis.

b. The umbilical cable assembly was sheared.

c. The yoke assembly shear bolt was bent.

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d. The break-away assembly mount was bent.

e. The booster slipper bar had slipped approximately 3/8 inch off the launchers.

3. The cause of the incident was tentatively attributed to mechanical malfunction. Investigation is continuing.

Incident #24: (U) DASA Code 513-23

Date - 31 January 1963

1. An assembly crew was completing maintenance operations on an XM47, Honest John, Warhead Section (Mk 31 Warhead). A No-Go indication was received in the prefire test.

2. The warhead section was disassembled and subsequent isolation procedures determined the fault to be in the center aft ballistic case section. The XM66 adaption kit was rejected and replaced.

3. No damage was sustained by the warhead.

Incident #25: (U) DASA Code 518-23

Date - 15 February 1963

1. During the loading of a Mk 102 practice weapon (inert Mk 34 Warhead), it was observed that the weapon and cradle tilted forward. Attempts to level the cradle, using the bomb trailer tilting mechanism, failed.

2. After removal of the weapon, the trailer was inspected and the cause of the incident was determined to be failure of the roll pin in the tilting mechanism. This released the actuating arm allowing the cradle to tilt freely.

3. The cause of the incident was mechanical failure.

Incident #26: (U) DASA Code 506-23

Date - 6 January 1963

1. A Mk 101 Mod 2 War Reserve Bomb was dropped from a semitrailer during movement from a storage magazine to a maintenance building.

2. The bomb was positioned on the semitrailer with the H-3129 chocks extended. The H-563 sling was detached and the electric boom lift was being backed off when one of the hooks of the H-563 sling caught on the H-3129 skid toppling the weapon from the bed of the semitrailer through a distance of 58-1/2 inches to the asphalt apron.

3. Damage to the bomb was limited to slight scratching of paint. The AEC and design agencies have concluded that the warhead is operational after evaluation of the incident.

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4. The cause of the incident was personnel error, i.e., failure to insure that hooks of the H-563 sling were clear of the weapon before backing the electric boom lift.

Incident #27: (S RD) DASA Code 507-3

Date - 14 January 1963

1. During maintenance and inspection of a Mk 107 Mod 0 Training Weapon, the weapon Rear Case was removed from the Forward Case prior to depressurizing the weapon bull assembly.

2. When the segmented clamp bands which attach the Rear Case to the Forward Case were pried loose with a screw driver, the Rear Case assembly was propelled violently upward from the Forward Case assembly.

3. The Rear Case became detached from the H-3090 hoisting sling and fell to the floor.

4. The weapon sustained extensive mechanical damage.

5. The cause of the incident is attributed to personnel error, i.e., failure to follow prescribed procedures.

Incident #28: (C RD) DASA Code 509-13

Date - 30 January 1963

1. During a recycling operation of a Mk 4 Re-Entry Vehicle (Mk 38 Mod 0 War Reserve Warhead), indications of a ground isolation fault were observed on the re-entry test set.

2. A check of the P1 connector of CF-1572 Cable revealed a short from Pin A to Pin B of the connector. A short was traced to the connection between P3 of CF-1587 and the MC-1190 Inertial Switch connector. Pin A of the MC-1190 connector was bent and made contact with Pins A and H of P3 of CF-1587. Pin A of the MC-1190 is in the continuity loop of the warhead and is connected to Pin A of CF-1572 through the CF-1587, MC-1405, and MC-1173; Pin H of P3 of CF-1587 is connected to Pin B of CF-1572.

3. The bent pin would not have affected weapon operation or reliability.

Incident #29: (S RD) DASA Code 501-33

Date - 7 March 1963

1. Incidents #29 through #39 involved separation of the Mk 38 Mod 0 Warhead ablative material from the warhead cylinder. The separation was observed during demating operations. Moisture was generally visable between the ablative material and the outer warhead cylinder.

2. The separations were (b)(3):42 USC 2162(a) over an area up to 100 percent of the cylinder circumference.

DTRA (b)(3)

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Incident #30: (S) DASA Code 516-23

Date - 18 February 1963

Refer to Incident #29.

Incident #31: (S) DASA Code 516-23

Date - 21 February 1963

Refer to Incident #29.

Incident #32: (S) DASA Code 504-13

Date - 16 January 1963

Refer to Incident #29.

Incident #33: (S) DASA Code 501-23

Date - 1 February 1963

Refer to Incident #29.

Incident #34 and #35: (S) DASA Code 504-23

Date - 4 February 1963

Refer to Incident #29.

Incident #36: (S) DASA Code 505-23

Date - 4 February 1963

Refer to Incident #29.

Incident #37: (S) DASA Code 511-23

Date - 11 February 1963

Refer to Incident #29.

Incident #38: (S) DASA Code 525-23

Date - 22 February 1963

Refer to Incident #29.

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Incident #39: (S) DASA Code 526-23

Date - 21 February 1963

Refer to Incident #29.

Incident #40: (S-RD) DASA Code 505D112

Date - 17 November 1962

1. During a functional check out of a Mk 39 Mod 3 Y1 War Reserve Weapon, in a BLU/2 Pod, a malfunction was indicated when the arming and fuzing monitor test switch was pressed.

2. Power was turned off and a complete check of all warhead and arming container connections and components was made. The check revealed that plug J-371-1 appeared to be binding. The plug was properly installed and the check out was resumed at the step where the malfunction was observed.

3. This time, in addition to the malfunction indication, a distinct odor was detected. Power was immediately disconnected and inspection disclosed that the low voltage battery pack had been activated.

4. Inspection by EOD personnel indicated that all safing and arming devices were in the SAFE position. Tritium monitoring was performed with negative results.

5. Investigation revealed a piece of wire in the input plug to the low voltage thermal battery which shorted the monitoring line to the squib line. The output of the low voltage thermo batteries was impressed upon the warhead trigger circuit since there was an operational setting on the fire baro which was in the closed position.

Incident #41: (S) DASA Code 503-13

Date - 17 January 1963

1. Inspection of a Mk 43 Mod 0 War Reserve Bomb revealed extensive damage to the electrical connector of the MC-1040 explosive bolt. Pin A of the P1 connector did not mate properly and had punctured the rubber molding adjacent to the receptacle.

2. The cause of the incident is attributed to personnel error, i.e., improper mating of the connector parts during initial assembly.

Incident #42: (S) DASA Code 514-23

Date - 13 February 1963

1. Inspection during a demating operation involving a Mk 49 Mod 4 War Reserve Warhead revealed a crack in the ablation material. Ablation ring number 2 had a crack eight-inches long completely across the ring ranging in width from 0.050 to 0.075 inch and approximately in depth. A hairline crack appeared near the large crack.

DTRA (b)(3)
(b)(3):42 USC 2162(a)

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2. The warhead was rejected and an evaluation of the defect is being made by the design agency.

Incident #43: (S) DASA Code 501-13

Date - 6 January 1963

1. After the re-entry vehicle had been mated to an SM-80, Minuteman Missile, a sharp report was heard from the re-entry vehicle. Inspection revealed that the electrical separation squibs had been fired by an undetermined voltage source.

2. Further inspection indicated that the damage was limited to the (b)(3):42 USC 2162(a) and associated cable and that the source of the electrical power which actuated the squibs was an electrostatic charge generated during handling and emplacement of the re-entry vehicle. DTRA (b)(3)

3. The missile was not properly grounded to the junction box at the bottom of the launcher as required by Technical Order procedures.

Incident #44: (S) DASA Code 508-13

Date - 16 January 1963

1. An XM1119 was being removed from the Radar Fuze Test stand by two men using Radar Fuze Handling Tool H-4143. As the XM1119 was being turned from a vertical to a horizontal position, the lugs on the rear of the H-4143 pulled from the recess of the XM1119 and the XM1119 dropped approximately 30 inches to the deck.

2. Inspection indicated damage as follows:

a. Bent housing on XM1118.

b. Bent handle on base of XM1119.

c. Base plate of XM1119 cracked.

3. The cause of the incident was attributed to poor design of the H-4143.

Incident #45: (S) DASA Code 501-122

Date - 4 December 1963

1. A tritium reservoir scheduled for installation on a Mk 39 Y1 Mod 2 War Reserve Bomb was discovered to be defective. As the reservoir was placed in position for installation, the threaded connector, receptacle for plug P4, was observed to be damaged.

2. A 3/4-inch portion of the threaded connector was pushed in approximately 1/4-inch. The shorting plug was installed when the reservoir was received and no damage to the shorting plug or to the thread protective cover was observed.

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3. Monitoring indicated no tritium contamination.

4. Analysis of the incident conditions indicated that the damage occurred prior to DOD receipt of the reservoir.

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ACCIDENT - INCIDENT SUMMARY

1 DECEMBER 1962 through 28 FEBRUARY 1963

TYPE OF ACTIVITY	CAUSE: Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Materiel Failure		TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD: Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None	
TRANSPORTATION																		
Tactical Air		1							5		6				1		5	
Logistical Air											0							
Rail											0							
Ship											0							
Motor Vehicle											0							
HANDLING																		
Mechanical Equipment	2					1			1		4	3					1	
Manual	1			1							2						2	
OPERATIONS																		
Aircraft Loading and Downloading		1				1					2						2	
Aircraft Postload Check	3										3		1	2				
Warhead Mating											0							
Missile Operations	1										1		1					
ADM											0							
Test and Maintenance	1	3	3					1			8	2	1	1			4	
Inspection	1	12	1			2			1		17	14	1			1	1	
Training											0							
Storage		1									1						1	
Aircraft Alert	1										1					1		
TOTAL	10	18	4	1	0	4	0	1	7		45	19	4	3	1	2	16	

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Accidents and Incidents During the Period 1 March 1963 through 31 May 1963

Incident #1: (U) DASA Code 501-33

Date - 8 March 1963

1. Incident involved a Mk 4 Mod 2 War Reserve Re-Entry Vehicle, MK 38 Mod 0 Warhead, (b)(3):42 USC 2162(a) mated to a SM65F Missile. DTRA b(3)

2. Ablative material separated from warhead cylinder. Separation measures approximately .011 inches in width and over approximately 20 percent of circumference.

3. There was considerable erosion in re-entry vehicle nose section. However, no moisture was present in ablative material separation.

4. During disassembly, approximately one cup of water was found present in bottom of warhead cylinder.

5. There was considerable corrosion visible in the re-entry vehicle nose section in form of rust on cable mounting brackets, mold on the impact detonator cables part number 305481-1, peeling and blistering of zinc chromate in nose section, rusting of safety wire securing impact detonator cable to impact detonators, and rusting of impact detonator mounting screws. The warhead nose section had a white chalky ring visible at the junction of the warhead case and the cylinder.

6. Probable cause of incident was design deficiency.

Incident #2: (U) DASA Code 502-33

Date - 13 March 1963

1. During logistic movement of one Rocket Thrown Depth Carge (RTDC) Mk 2 Mod 0 (b)(3):42 USC 2162(a) Mk 44 Mod 0 Warhead (b)(3):42 USC 2162(a) was damaged. Damage included marring of paint approximately 30-inches long and one-inch wide with several slight depressions in case. DTRA b(3)

2. The incident probably occurred during assembly.

3. The cause of the incident is unknown.

Incident #3: (U) DASA Code 503-33

Date - 14 March 1963

1. Incident involved one BOAR Trainer. (b)(3):42 USC 2162 (a) DTRA b(3)

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2. The pilot could not retract fins, therefore, the trainer was jettisoned along side breakwater.

3. Probable cause of the incident is unknown.

Incident #4: (U) DASA Code 504-33

Date - 15 March 1963

1. When a Mk 2 Mod 0 Operational Suitability Test (OST) Weapon, (b)(3):42 USC 2162 (a) was being unloaded from launcher cell, the Mk 10 cable retractor pin failed to clear lower snubber. Contact with the snubber resulted in fracture of Ignition and Separation Assembly (ISA) receptacle housing. DTRA b(3)

2. The cause of the incident is personnel error as the incident occurred as a result of error in visually estimating clearance between snubber and pin.

3. It has been recommended that Mk 10 cable retractor pin be redesigned to permit greater clearance between pin and snubber.

Incident #5: (U) DASA Code 505-33

Date - 12 March 1963

1. While performing 120-day inspection of a Mk 25 Mod 0 War Reserve Warhead, (b)(3):42 USC 2162(a) a dent .058 inch deep, 2.125 inches long, and 2.0 inches wide was discovered on the MC-672. DTRA b(3)

2. Preliminary investigation revealed damage may have occurred prior to January 1962 due to MF-9 Trailer malfunction which allowed the warhead to descend too rapidly on pallet horizontal bar.

3. Warhead has been rejected in accordance with paragraph 9-6.2.2.1, TP W25-1.

4. Probable cause of incident was malfunction of MF-9 Trailer.

Incident #6: (U) DASA Code 507-33

Date - 16 March 1963

1. Incident involved a Mk 3 Mod 0, (b)(3):42 USC 2162(a) ASROC Missile. DTRA b(3)

2. Missile was being retracted from launcher in accordance with Ordnance Publication (OP) 2983. As ignition separation assembly receptacle passed after snubber, forward plug of Mk 10 cable hit after snubber.

3. Forward wall of ignition separation assembly was fractured along both vertical seams and receptacle was loose. Retracting slide of cable was deformed. No other damage was found.

4. Retracting slide of cable assembly Mk 10 apparently hit after snubber while missile was being retracted, using air drive, possibly caused by sagging of plug in receptacle.

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5. Missile was being unloaded in accordance with OP 2983, snubbers fully retracted prior to unloading as visually observed by loading officer, safety officer, crew chief, and pickup man.

Incident #7: (S) DASA Code 508-33

Date - 20 March 1963

1. A Mk 108 Operational Suitability Test (OST) Weapon was aboard an A4C Aircraft that crashed.

2. Salvage operations reported the weapon appeared to be intact.

3. Weapon was disassembled in order to facilitate removal.

Incident #8: (S) DASA Code 509-33

Date - 6 March 1963

1. During storage monitoring of a XM47 Warhead Section, (b)(3):42 USC 2162(a) a red No-Go indication was received during the storage prefire test. DTRA 6(3)

2. Warhead section was disassembled and tested. Continuity test revealed no deficiencies. Test of the radar fuze revealed no deficiencies.

3. The rest of the adaption kit had not been tested.

4. Cause of the incident has not been determined.

Incident #9: (S/RD) DASA Code 510-33

Date - 12 March 1963

1. A nose cylinder flare assembly check of a Mk 4 Mod 3 Re-entry Vehicle (Mk 38 War Reserve Warhead) using a TTU-123/E Re-entry Vehicle Test Set indicated a ground isolation fault.

2. The test set is being modified to reduce sensitivity.

3. The warhead has been returned to a repair facility for ground leakage test and post mortem evaluation.

Incident #10: (S) DASA Code 511-33

Date - 13 February 1963

1. During loading of a Mk 43 Mod 1 Training Weapon onto an A-1H Aircraft, using an AERO 33C Bomb Truck, Plug P-3 of CF-1707 was jammed between the weapon connector protective cover and the hail loop retention rod. The P-3 Plug sustained slight mechanical damage.

2. The cause of the damage was attributed to personnel error.

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Incident #11: (U) DASA Code 512-33

Date - 15 March 1963

1. Acceptance inspection of a Mk 53 War Reserve Warhead revealed gouges along the B surface at the 6 o'clock position. Two gouges were more than 1/2-inch long extending the length of the flange at station 9, B surface and another gouge was approximately 1/2-inch wide.

2. The probable cause of the damage was improper loading into the handling cradle by the vendor.

Incident #12: (U) DASA Code 513-33

Date - 7 March 1963

1. Incident occurred while transferring a M97 Warhead Section (b)(3):42 USC 2162(a) from launcher rail to missile body truck using fork lift boom attached. DTRA 6(3)

2. Upon lifting the missile, an unbalanced condition occurred causing the missile to descend slowly, in turn causing the main fin to rest on the lower rail of the missile body truck and the nose on the ground.

3. Damage occurred to main fin number 3 and forward fin number 4 and forward nose section.

4. Probable cause of incident is personnel error.

Incident #13: (U) DASA Code 514-33

Date - 27 March 1963

1. A lightning strike occurred between the inner and outer security fence of a missile complex.

2. No impact point on missile systems. Warheads were not damaged.

Incident #14: (U) DASA Code 501-43

Date - 20 March 1963

1. During the postload check of a Mk 7 Mod 5E War Reserve Bomb, (b)(3):42 USC 2162(a) load crew member in the cockpit of an A4C Aircraft advanced the T208A operation control switch beyond "Post To" position, to either "Pre-Drop" position or near "Pre-Drop" position. DTRA 6(3)

2. The arm light of the T208A came on causing the tail fins to move toward the extend position and then to the retract position.

3. Probable cause of the incident was inadvertent over rotation of operation control switch of T208A control box beyond "Post To" position, energizing the fins extension, in-flight insertion and electrical arm circuits of the Mk 7 Bomb.

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4. Cause of incident was personnel error.

5. It was recommended that no training loads be accomplished with Mk 7 War Reserve Weapons until Armament Materiel Change (AMC) 319 is accomplished, and that only training weapons be used till then, with caution emphasized during post load step occasioning this incident.

Incident #15: [redacted] DASA Code 502-43

Date - 25 March 1963

1. Incident involved a Mk 49 Mod 4 War Reserve Warhead (b)(3):42 USC 2162(a) mated to a SM65D Missile. DTRA b(3)

2. Lightning struck in the vicinity of pads 1 and 2 causing the flight control and re-entry vehicle bar on the status panel on pad 2 to go out. Probable cause is fault with module A47 cabinet 320 chassis A4.

3. The probe alarm also faulted.

4. The re-entry vehicle was mechanically and electrically mated to missile on pad 1. There was no unusual re-entry vehicle indications at time of, or after the lightning strike.

5. A continuity checkout and a T-290 sniffer check of the mated re-entry vehicle was satisfactory.

Incident #16: [redacted] DASA Code 503-43

Date - 1 April 1963

1. During a routine delivery pilot qualification flight, a Mk 102 Shape was inadvertently dropped from aircraft.

2. The aircraft was flying straight and level with no unusual maneuvers, although aircraft had passed through moderate turbulance a few minutes prior to dropping the Mk 102.

3. The Control Selector Switch was moved to SAFE and warning light was pressed to test the time the weapon left the aircraft. Upon launching, launcher was checked and found not to have fired electrically.

4. Yellow salvo handle was in the depressed position and metal guard was in place.

5. Launcher was checked before and after drop and had no discrepancies. A wire check of the aircraft prior to and after the drop revealed no discrepancies.

6. Cause of the incident has not been determined.

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Incident #17: (S) DASA Code 504-43

Date - 30 March 1963

1. During modification of a Mk 28 Y8 Mod 3 Alt 205 War Reserve Warhead (b)(3):42 USC 2162(a) a gland nut and ferrule on gas tube assembly was damaged. (b)(3):42 USC 21

2. A technician attached a torque wrench into the wrong side of H-876 and tightened gland nut according to TP W28-512.

3. Overtightening of nut resulted since torque wrench failed to snap. Torque wrench was turned to opposite direction to normal rotation.

4. Cause of incident was personnel error as supervisor and technician were not completely knowledgeable on use of torque wrench and tool design of H-876.

Incident #18: (S) DASA Code 505-43

Date - 27 March 1963

1. Incident involved a warhead section, training XM35.

2. Plug P805 modified per Materiel Work Order (MWO) ORD Y3-W25 was snapped from its support base at the rear of the warhead section causing an electrical short of unknown extent in the internal warhead circuitry.

3. The incident occurred as the warhead training section was being demated from the missile body.

4. The warhead training section sprang upward one inch as the top bolt was removed and against the P805 Plug in a slot in the fore section of the missile body, causing the P805 Plug to snap from its mounting.

5. The warhead training section was scorched slightly in the area surrounding the P805 Mounting Plate.

6. The primary cause of the incident was personnel error in judging tension to be applied to M-6 warhead handling sling. Protrusion of P805 Plug was also a contributing factor to the incident.

Incident #19: (S) DASA Code 506-43

Date - 7 April 1963

1. Incident involved two Mk 27 Mod 0 Warheads, (b)(3):42 USC 2162(a)

2. The warheads were mated to REGULUS Missiles and stowed in hangar when hangar high temperature alarm sounded. The hangar sprinkling system was activated.

3. Inspection revealed no fire in the hangar. Visual inspection of missiles and warheads revealed some salt water inside of the warhead compartment.

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4. Cause of incident resulted from pressure in hangar due to leaky backup valves in 3000 pound air start line.

5. Inspected and declared operational. No moisture or salt water corrosion evidenced.

Incident #20: [redacted] DASA Code 507-43

Date - 10 April 1963

1. Incident involved separation of ablative material from warhead cylinders and nose sections of three war reserve Mk 4 Mod 3 Re-entry Vehicle, Mk 28 Mod 0, Warheads, (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) DTRA 43,

2. Probable cause of incidents are aging and curing of ablative material and temperature changes.

Incident #21: [redacted] DASA Code 508-43

Date - 12 April 1963

1. A Mk 4 Mod 3 War Reserve Re-entry Vehicle, W28 (b)(3):42 USC 2162(a) Alt 221, Alt 225, was damaged due to separation of warhead as well as separation of ablative material from cylindrical section of nose section and chip in conical portion of nose section. DTRA 43,

2. Ablative material appeared separated around entire periphery of warhead cylinder.

3. Probable cause of incident was design deficiency.

Incident #22: [redacted] DASA Code 509-43

Date - 25 March 1963

1. During periodic storage inspection of a Mk 54 Mod 0 War Reserve Warhead, (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(one of three guide locking pins on Jack number 1 warhead connector was found to be broken loose from its setting. DTRA 43

2. Cause of incident is material failure of setting holding the pin into Jack number 1 suspected.

Incident #23: [redacted] DASA Code 510-43

Date - 4 April 1963

1. A severe pressure leak around rear lift lug of a Mk 28 Y1 War Reserve Warhead, Alt 202, 216, (b)(3):42 USC 2162(a) was found during conversion from Retarded Internal to Warhead. DTRA 43

2. A pressure reading of 0.5 psi was indicated. The warhead was repressurized to 15.0 psi and checked for pressure leaks. A severe leak was discovered around rear lift lug weld.

3. Cause of incident is unknown. A post mortem of warhead was requested.

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Incident #24: [redacted] DASA Code 511-43

Date - 8 April 1963

1. While moisture sealing nose section of a Mk 4 Mod 3 War Reserve Re-entry Vehicle, Mk 28 Mod 0 Warhead, Alts 221, 225, (b)(3):42 USC 2162(a) ablative material was discovered separated from warhead cylinder.

2. Water has damaged ablative material and softened material around entire periphery of warhead.

3. There was evidence of water inside nose section or warhead cylinder. The ablative material was raised above nose section from .025 inch to .042 inch.

4. Probable cause of the incident was design deficiency.

Incident #25: [redacted] DASA Code 514-43

Date - 25 April 1963

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

2. Probable cause of incident was too much slack allowed in detonator cable during previous assembly of weapon which was performed by contractor.

3. Cause of incident was personnel error.

Incident #26: [redacted] DASA Code 501-53

Date - 2 May 1963

1. While hoisting a Mk 105 Trainer, serial number 22, with a bridge crane on an AERO 33B Bomb Truck, insufficient clearance at the after end of the bomb caused the monitoring plug assembly to bear against a chock resulting in bending of connector pins, shearing of the inner collar and damage to thread of the outer collar.

2. Cause of incident was personnel error due to lack of adequate supervision.

Incident #27: [redacted] DASA Code 502-53

Date - 13 May 1963

1. During removal of a Rocket Thrown Depth Charge (RTDC) Mk 2 Mod 0, (b)(3):42 USC 2162 Mk 44 Mod 0, (b)(3):42 USC 2162(a) om an ASROC launcher cell to inspect the Mk 10 Mod 0 cable, the Mk 10 cable missile connector caught in the lower rear snubber which was fully retracted.

2. At this point, operations were stopped. On further inspection, missile cable housing receptacle J-1 was found to be broken allowing missile jack plug receptacle freedom of movement.

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3. Selock cable installed also indicate cracked insulation near missile connector. Consider housing cracked or broken prior to off loading to allow cable missile connector to sag sufficiently to catch on snubber.

Incident #28: (U) DASA Code 503-63

Date - 10 May 1963

1. While shifting a Mk 2 Mod 0 ASROC Missile (b)(3):42 USC 2162(a) from cell 5 to cell 8 aboard a destroyer, the launcher cable receptacle housing of ASROC Mk 2 Missile split when the Mk 10 cable plug extractor caught on after bottom snubber. DTRA b(3)

2. The snubber was not fully retracted by approximately 1/16 inch although the snubber retracted lamp on the 3A2 panel was lighted and retraction confirmed visually.

3. Missile Electrical System Test (MEST) checks satisfactory. Snubbers operated normal.

4. Cause of incident was malfunction of snubber due to either binding or air in hydraulic system.

Incident #29: (U) DASA Code 504-63

Date - 7 May 1963

1. A high pressure reading obtained on Mk 40 Y1 Mod 0 War Reserve Warhead (b)(3):42 USC 2162(a) DTRA b(3)

(b)(3):42 USC 2162(a)

2. A T-290 test was performed. While performing test, battery access cover was removed and a 1-1/4 inch split in (b)(3):4 detonator cable insulation 1/4 inch from P7 connector was noted. DTRA b(3) DTRA b(3)

3. Probable cause of incident: Clamp, part number 810513-00 applicable to training, appeared to be holding excessive tension on P7 connector end of cable and detonator cable insulation appeared to be brittle.

4. The high pressure reading of approximately 1.5 psi is not believed significant and T-290 readings were negative.

Incident #30: (U) DASA Code 506-63

Date - 20 May 1963

1. During the unloading of a Mk 107 Bomb from an A1 Aircraft, the center station fuel plug was inadvertently pulled out of the aircraft.

2. Pulling the fuel plug out allowed gas to drain into the Mk 31 parachute pack and weapon.

3. Cause of the incident was personnel error during off loading procedures.

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Incident #31: [redacted] DASA Code 507-53

Date - 19 May 1963

1. Lightning struck a commerical power transformer located outside and adjacent to a missile complex security fence.

2. Damage was limited to a blown fuze on the transformer and loss of communications between complex and alternate command post due to a blown fuze in the communications system.

3. Warhead of a SM65F was not damaged.

Incident #32: [redacted] DASA Code 508-53

Date - 10 May 1963

1. A lightning strike occurred outside the security fence of a missile complex where Mk 49 Y2 Mod 0 War Reserve Warhead mated to a SM65D was in standby alert configuration.

2. The following indications were noted on the standby status panel: Launcher 2705 circuits red, flight control bar out, equipment status panel automatic pilot ground control unit went out.

3. A visual inspection and postmate checkout was performed with no damage indicated.

Incident #33: [redacted] DASA Code 509-53

Date - 16 May 1963

1. A lightning strike occurred between the security fence and spray pond of a missile complex.

2. A Mk 38 Mod 0 War Reserve Warhead mated to a SM65E was in the near vicinity of strike, however, there was no damage to the launch equipment or the missile system.

Incident #34: [redacted] DASA Code 510-53

Date - 13 May 1963

1. During the postflight safe-monitor test of a Mk 39 Mod 0 Training Weapon, it was determined that the capsule was inserted in the warhead contrary to nuclear safety instructions.

2. Cause of incident was simulation of items when employing it for the conduct of training flight.

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ACCIDENT - INCIDENT SUMMARY

1 MARCH 1963 through 31 MAY 1963

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Materiel Failure				Mechanical	Electrical	Fusing or Firing Component	Activation	Total Loss	Explosives Components	None
TRANSPORTATION																			
Tactical Air								2				2					2		
Logistical Air								1				1	1						
Rail																			
Ship																			
Motor Vehicle																			
HANDLING																			
Mechanical Equipment	1											1	1						
Manual																			
OPERATIONS																			
Aircraft Loading and Down Loading	3											3	1						2
Aircraft Postload Check	1											1							1
Warhead Mating																			
Missile Operations	3	2	1	3	4				2			15	3			1			12
ADM																			
Test and Maintenance	2							2	1			5	2						3
Inspection	1	1							1			3	3						
Training								1				1					1		
Storage								1				1							1
Aircraft Alert																			
TOTAL	11	3	1	3	4			7	4			33	11			1	3		19

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Accidents and Incidents During the Period 1 June 1963 through 31 August 1963

Incident #1: DASA Code 501-63

Date - 6 June 1963

1. During a recycle operation in conjunction with performing Alt 225 on a Mk 38 Mod 0 War Reserve Warhead, Mk 4 Re-entry Vehicle, pin "G" of the arming and fuzing package cable CF-1573 connector J-3 was found to be slightly bent. The bent pin led to discovery of damaged CF-1573 rubber insulation.

2. A hole was found in the insulation next to receptacle "G" of CF-1573 connector P-3. Connectors were subsequently mated and pins entered proper receptacle each time.

3. Probable cause of the incident was personnel error due to improper cable connection.

Incident #2: DASA Code 502-63

Date - 7 June 1963

1. Eight Mk 28 Mod 1 War Reserve Warheads mated to TM-76A Missiles were subjected to a lightning storm.

2. Lightning struck the ground outside of the perimeter fence, traveling 350 feet along the fence causing an electrical charge which (b)(3):42 USC 2162(a) in Nose Temperature Control Unit (NTCU) ducts of missiles on pads 57, 58, and 60. DTRA 6(3)

3. A 100 amp, 500 volt fuze in the diesel generator house blew causing complete power loss at the site. Also destroyed were three diodes and one resistor in each Power Distribution Control Unit.

4. All warheads were continuity tested and found serviceable.

5. T-290 Test was negative.

Incident #3: DASA Code 503-63

Date - 11 June 1963

1. Incident involved a Mk 38 Mod 0 War Reserve Warhead, Mk 4 Re-entry Vehicle.

2. During preparation for modification and disassembly of flare from cylinder, a hole was found in the face of the rubber insulation next to receptacle "F" of P-5, cable CF-1573.

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3. Pin "F" of J-5, Cable P/N 305746-6 of flare section was found to be slightly bent and offset in the connector base.

4. Probable cause of the incident was personnel error due to improper cable connection.

Incident #4: ([redacted]) DASA Code 504-63

Date - 9 June 1963

1. Incident involved a Mk 28 Y1 Mod 1 War Reserve Bomb.

2. During pressure check after downloading, no pressure reading was obtained with a 5.0 to 100 psi tire gauge. Using a T-283, an estimated minus 5.0 psi was obtained.

3. Probable cause is loss of pressurization during high altitude flight.

Incident #5: ([redacted]) DASA Code 501-73

Date - 2 July 1963

1. A Mk 28 Y2 Mod 2 War Reserve Warhead was undergoing TP W28-510 modification when a damaged P-3 Receptacle of the MC-880 Interconnecting Box was discovered.

2. The pin gauge, P/N 166379-00, would not bottom against the glass insert of the receptacle.

3. In addition, the P-3 Receptacle was slightly flattened on one side.

4. Probable cause of the incident was personnel error. There was evidence of unknown personnel applying unauthorized tools to correct a reject condition.

Incident #6: ([redacted]) DASA Code 502-73

Date - 5 July 1963

1. During loading of a Mk 43 Y3 Mod 1 War Reserve Bomb, aboard an RF-101C Aircraft, the DCU-9A warning light came on when the DCU-9A control was rotated from OFF to SAFE.

2. When the DCU-9A control was rotated to OFF, the warning light remained on until the DCU-9A power was turned off.

3. The weapon was downloaded and a GWM-4 test was performed on the aircraft satisfactorily. The aircraft was reloaded using a substitute CF-1506 Cable and the same indications were noted.

4. The weapon was downloaded and a satisfactory loading accomplished using a BDU-6/E.

5. Weapon rejected.

6. Post mortem revealed warhead material deficiency.

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Incident #7: [redacted] DASA Code 504-73

Date - 11 July 1963

1. Incident involved a Mk 7 Mod 5 Bomb.

2. An indentation approximately 3/16-inch long with a depth of 0.015-inch at one end tapering to zero at the other end was found in the pellet protector disc of [redacted] detonator well. (b)(3):42 USC 2162(DTRA (b)(3)

3. The indentation was between the wall and center of the detonator well. Positive determination of perforation could not be accomplished without sphere disassembly.

4. Weapon was rejected in accordance with paragraph 5-5, 8, 3, TP B7-1.

5. Cause of the incident was unknown.

Incident #8: [redacted] DASA Code 507-73

Date - 7 July 1963

1. A Mk 28 Y1 Mod 1 War Reserve Warhead failed pressure check after downloading from a high altitude flight.

2. The needle of the T-283 went from zero counterclockwise and stopped approximately 1/2 inch from 20 psi.

3. A T-290 Test was performed with negative results.

4. A T-304C Test was also normal.

5. The last pressure test of warhead pressure was 5.0 psi, 17 April 1963. Warhead was repressurized to 15.0 psi and had been flown three times from 17 April 1963 to date of incident.

6. Warhead was rejected.

7. Probable cause of the incident was material failure.

Incident #9: [redacted] DASA Code 508-73

Date - 18 July 1963

1. During modification of a Mk 28 Y2 Mod 1 War Reserve Warhead to a Mod 2, retaining screws of warhead pressure cover were difficult to remove.

2. Examination revealed damage to screw P/N 852642-00. The screw was stripped at 8 o'clock position of cover. The helicoil insert, in which the screw was installed was also damaged. The helicoil threads were damaged and the helicoil unthreaded one to two turns out of position.

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3. The silicone jacket of lower CF-1439 Cable was split open at the P-1 Connector. The split extended longitudinally 1/2 inch from P-1 Connector.

4. Preformed packing P/N 837930-00 was missing from P-1 of CF-1595.

5. The warhead was rejected.

6. Probable cause of the incident was personnel error.

Incident #10: [redacted] DASA Code 509-73

Date - 10 July 1963

1. Incident involved a Mk 28 Y1 War Reserve Warhead.

2. Warhead had been mated to a GAM-77 aboard a B-52G Aircraft. The warhead failed pressure check after download from a 24-hour B-52G Flight.

3. The T-283 pressure gauge needle deflected backward indicating a negative pressure.

4. All seals had been replaced at a previous date due to pressure leakage. This was the first flight since seal replacement. Warhead was rejected.

5. Cause of the incident was material failure.

Incident #11: [redacted] DASA Code 501-83

Date - 24 July 1963

1. Incident involved one training weapon, Mk 2 Mod 0 Rocket Thrown Depth Charge (RTDC).

2. During a loading maneuver, the following conditions were discovered:

a. Thrust neutralizer was found to be frozen. The entire motor insert turned easily when pressure was first applied to the thrust neutralizer. Inspection revealed retaining pin to be sheared.

b. External receptacle on Ignition and Separation Assembly (ISA) was found to be loose on initial insertion of Mk 10 cable. Inspection revealed two internal retaining bolts loose.

3. Probable causes of the incident are:

a. Failure of retaining pins.

b. Personnel error in assembly of external receptacle on ISA.

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Incident #12: (S[redacted]) DASA Code 503-83

Date - 2 August 1963

1. Incident involved a Mk 28 Y1 Mod 1 War Reserve Warhead. A 20.0 psi reading was obtained after a high altitude flight.

2. Last pressure test performed on 4 June 1963 gave a reading of 5.25 psi. Warhead was flown twice on 30 June and 1 August 1963.

3. Warhead was rejected.

4. Probable cause of incident was material failure.

Incident #13: [redacted] DASA Code 504-83

Date - 22 July 1963

1. Incident involved a Mk 57 Mod 0 Operational Suitability Test Weapon (OST).

2. The weapon was on an AERO 12B Bomb Skid during an unloading exercise.

3. When the weapon was lowered on the AERO 12B Bomb Skid with a Mk 8 hoist, the hoisting band was positioned on the weapon chocks of the AERO 12B. The pre-flight selector window was inadvertently placed on one of the weapon chocks of the AERO 12B. The Mk 57 nose was lifted to facilitate removal of the AERO 61A Hoisting Band which placed additional pressure on the pre-flight selector window causing it to break.

4. The cause of the incident was personnel error in positioning the weapon on the AERO 12B Bomb Skid with the pre-flight selector window on one of the AERO 12B chocks during off-loading.

Incident #14: [redacted] DASA Code 505-83

Date - 27 July 1963

1. Incident involved a Mk 28 Mod 1 War Reserve Warhead. Approximately 6 psi was discovered during pressure check following warhead removal from a GAM-77.

2. Records indicate pressure readings were all above 10.0 psi since initial pressure record entry in February 1962.

3. Probable cause of the incident was material deficiency.

Incident #15: [redacted] DASA Code 509-83

Date - 15 August 1963

1. Incident involved a Mk 28 Mod 3 War Reserve Bomb.

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2. During retrofit in accordance with TP W28-512, the P-3 Connector was pinched between the container cover, P/N 179067-00 and section "C", P/N 137968-00.

3. The MC-1736 X-Unit was returned to San Antonio Air Materiel Area for repair and inspection.

4. Cause of the incident was personnel error.

Incident #16: [redacted] DASA Code 512-63

Date - 19 August 1963

1. During a storage inspection, an F7 Fuze was positioned on an H-12 Adjustable Hand Truck and transported to the Electrical Bay. As the H-12 was being adjusted in front of the Cartridge Assembly Test station, the fuze rolled to the rear and off the H-12 and on to the floor. The MC-134 X-Unit was dented approximately 1/4-inch deep along an arc of approximately 20 degrees.

2. Fire set was rejected.

3. Cause of incident was personnel error.

[redacted]

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ACCIDENT - INCIDENT SUMMARY

1 JUNE 1963 through 31 AUGUST 1963

TYPE OF ACTIVITY	CAUSE: Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Materiel Failure	Other	TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD: Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosives Components	None
TRANSPORTATION																	
Tactical Air																	
Logistical Air																	
Rail																	
Ship																	
Motor Vehicle																	
HANDLING																	
Mechanical Equipment																	
Manual																	
OPERATIONS																	
Aircraft Loading and Down Loading			1								1		1				
Aircraft Postload Check																	
Warhead Mating																	
Missile Operations	1			1	1				2	1	6	2					4
ADM																	
Test and Maintenance	2							1			3	3					
Inspection	1										1	1					
Training	2										2	2					
Storage																	
Aircraft Alert									3		3						3
TOTAL	6		1	1	1			1	5	1	16	8	1				7

[redacted] 1954 [redacted]

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Accidents and Incidents During the Period 1 September 1963 through 30 November 1963

Incident #1: [redacted] DASA Code 508-103

Date - Unknown

1. A cannon plug connector to the MC-251 Motor Generator of a Mk 1 Mod 2 Fire Set was discovered broken during an acceptance inspection.

2. Investigation revealed that the damage was done either during previous maintenance or at the time of manufacture.

3. The fire set was red lined awaiting disposition instructions.

4. Probable cause of the incident was personnel error.

Incident #2: [redacted] DASA Code 505-93

Date - 21 September 1963

1. During a receipt inspection of a Mk 2 Mod 0 Rocket Thrown Depth Charge (RTDC) Training Weapon, the securing pin of the nozzle plate restraining spring was found to be sheared.

2. While attempting to remove the thrust neutralizer nozzle plate, it turned freely, verifying that the pin had been sheared prior to receipt.

3. Probable cause of the incident was personnel error.

Incident #3 [redacted] DASA Code 502-83

Date - 31 July 1963

1. While performing modification on a Mk 25 Mod 0 Warhead as outlined in TP W25-502, the X-unit was found bolted to the pressure cover 30° counterclockwise to the prescribed position, causing a strain to be placed on the cable connecting J-49 to the fire set. There was evidence of previous damage to the pressure cover. An area of approximately 3 square inches appeared to have been dented and repaired. The T-304 Electrical Monitor Tests before and after modification were normal. There was no visual evidence of damage to the fire set. The unit was returned for post-mortem.

2. Examination of the warhead disclosed: (1) The MC-1274 Fire Set bolts were not properly lockwired - the lockwire tension was in a loosening direction; (2) the SA-317 Connector Number 23 was slightly dented; (3) there was discoloration inside the pressure cover between detonator cables (b)(3):42 USC 216 over an area approximately 1-1/2 x 3 inches; (4) the pressure cover was thoroughly inspected and no evidence of damage could be found. Since the X-unit had been

DTRA 603

[redacted]

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incorrectly assembled, with the original warhead connecting cable subject to possible damage from strain, the MC-1274 Fire Set will be functionally reaccepted in a manner similar to new production. The SA-317 Connector Number 23 will be replaced. After rebuild, the warhead will be returned to the stockpile.

3. Cause of the incident was personnel error.

Incident #4 [redacted] DASA Code 506-83

Date - 11 October 1963

1. While performing modification on a Mk 25 Mod 0 Warhead as outlined in TP W25-502, it was noted that the fire set was bolted to the pressure cover in a position 60° clockwise to the prescribed position. All of the detonator cables were connected to the fire set 60° off the prescribed position, resulting in improper connection of all detonator cables numerically.

2. T-304 electrical monitor tests before and after modification were normal. There was no visual evidence of damage to the fire set.

3. There was evidence of previous damage to the pressure cover as an area of approximately 5 square inches appeared to have been dented and repaired. The unit was returned for post-mortem.

4. Examination of the warhead failed to disclose any damage to the pressure cover or to the fire set. Since the X-unit had been incorrectly assembled, with the original warhead connecting cable subject to possible damage from strain, the MC-1274 Fire Set will be functionally reaccepted in a manner similar to new production.

5. Cause of incident was personnel error.

Incident #5 [redacted] DASA Code 506-103

Date - 14 October 1963

1. A Mk 25 Mod 1 Warhead was in the process of modification as outlined in TP W25-502, when the X-unit failed the test as specified in paragraph 3-3, 6, 5. The ARM lamp failed to light. Procedures in paragraph 3-3, 6, 14 to paragraph 3-3, 6, 14, 13 were performed and the ARM lamp again failed to light. Warhead was rejected.

2. Probable cause of incident was due to material failure of the MC-1274 Fire Set.

Incident #6 [redacted] DASA Code 503-113

Date - 5 November 1963

1. While performing modification on a Mk 25 Mod 0 Warhead as outlined in TP W25-502, the X-unit was found bolted to the pressure cover 60° clockwise of the prescribed position.

2. All detonator cables were connected 60° from the proper position.

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3. T-304 electrical monitor tests performed prior to and after modification were normal. There was no visible evidence of damage to the fire set.

4. Probable cause of the incident was personnel error.

Incident #7 [redacted] DASA Code 513-113

Date - 6 November 1963

1. During modification of a Mk 7 Mod 7 Bomb to a Mod 9, cable P-101 from the MC-1553 Interconnecting Box was found to be crushed.

2. Subsequent investigation showed that wire 29 to J-101 of the Mk 1 Mod 1 Fire Set, which was being replaced with an FSI-2, was crushed, exposing the bare wire.

3. Probable cause of the incident was personnel error.

Incident #8 [redacted] DASA Code 503-93

Date - 7 September 1963

1. A negative pressure was indicated during the T-253 pressure check on a Mk 28 Y1 Mod 1 War Reserve Warhead after it was unloaded from a B-52 Aircraft.

2. T-290 test was performed with negative results. T-304C electrical monitor test was performed satisfactorily.

3. The last pressure test of the warhead performed on 10 August 1963 also indicated a negative pressure reading. The warhead was repaired at that time and passed the 24-hour pressure test.

4. Probable cause of the incident was material failure.

Incident #9 [redacted] DASA Code 502-93

Date - 18 September 1963

1. While performing maintenance on a Mk 28 Y2 Mod 3 External (EX) War Reserve Warhead in accordance with TP B28-1A, paragraph 4-6.2.6. it was noted that the cap screw in the rosan insert adjacent to the J-8 connector of the warhead was off center approximately 10° to 15°.

2. An inspection revealed that the cap screw threads were damaged and the rosan insert broken.

3. Probable cause of the incident was personnel error.

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Incident #10 (S) DASA Code 503-103

Date - 9 September 1963

1. A Mk 28 Bomb was undergoing a change in accordance with TP B28-1A when it was noted that the vinyl covering of Cable P-5 of the MC-1729 Interconnecting Box was cut and crushed, exposing the wires of the Cable P-5.

2. Cable P-5 apparently was caught between the J-1 receptacle and the container cover when the cover was replaced following Prescribed Action Link (PAL) modification.

3. Probable cause of the incident was due to cable routing and excessive length of the Cable P-5.

Incident #11 (SRD) DASA Code 504-93

Date - 23 September 1963

1. While arming a Mk 28 Y1 Mod 2 Full Fuzing Internal Bomb in an MHU-20/C QUAD Pack for B-52 Aircraft alert, the DCU-9/A Inflight Control Box was placed on SAFE and SWK-2/A24 T-1 placed on lower right. The DCU 9/A warning light came on, power was turned off and the weapons unloaded.

2. After the weapon was unloaded, a T-304 electrical monitor test was performed. The DS-1 light of the T-304 did not light. The weapon was then disassembled and a satisfactory T-304 test was obtained on the Mk 28 Mod 3 Full Fuzing Internal Shape Component (FISC) fuze. However, the warhead DS-1 light would not light. The warhead had been modified to Mod 2 two days prior to the incident and at that time no abnormal indications were noted.

3. Results of a post-mortem revealed that the MC-885 Arming-Safing Switch Assembly was off the SAFE position. When power was applied directly to the SAFE or ARM lines, each channel of the MC-885 switch functioned properly; that is, it stopped in the SAFE or ARM positions correctly. Further testing with a Production Tezier PT-552 detected an intermittent short in Channel 1 of the switch, which would permit DCU 9/A safing power to run the MC-885 from the SAFE to an intermediate position. This channel may have run through the ARM position depending on the length of time the DCU 9/A selector switch was in the SAFE position and the conductivity of the short circuit.

4. Probable cause of the incident was material failure.

Incident #12 (S) DASA Code 502-103

Date - 1 October 1963

1. During an inspection following shipment (b)(3):42 Mk 28 Mod 1 Warheads, the safety wire and lead seal on the cable connectors CF-1595 and CF-1596 were found missing. The lead seals were not pressed to the safety wire on the CF-1595 and CF-1596 cable connectors (b)(3):42 USC 2162(a)

DFRA CH(3)

(b)(3):42 USC 2162(a)

2. Probable cause of incident was personnel error.

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Incident #13 [redacted] DASA Code 505-103

Date - 16 October 1963

1. While preparing a Mk 28 Y1 Mod 2 Warhead for conversion, it was noted that the forward bomb suspension lug could not be removed due to the lug insert rotating with the suspension lug.

2. Probable cause of incident was personnel error due to either an excessive amount of loctite sealant applied to the lug, threads being coated with paint, or possible damage to the threads.

Incident #14 [redacted] DASA Code 501 and 502-113

Date - 23 October 1963

1. During an inspection following shipment from an AEC production agency, the MC-1531 blue plastic cover on two F28-3 War Reserve Fuzes were found loose. The blue plastic cover of one F28-3 War Reserve Fuze was found lying at the base of the container.

2. Cause of the incident was either due to vendor packing or damage during shipment.

Incident #15 [redacted] DASA Code 511-103

Date - 24 October 1963

1. (b) (3):42 Mk 28 Y1 Mod 2 Warheads were involved in an incident during the process of removing GAM-77A warhead hardware in preparation for stockpile storage configuration. DTRA 6(3)

2. When attaching the H-418A sling to the bomb suspension lugs, it was necessary to reposition the bomb suspension lugs. When pressure was applied to loosen the lugs, the lug inserts turned 1/4 inch in a loosening direction before the suspension lugs loosened.

3. Probable cause of the incident was due to the shear strength of 1000 psi of the Grade A loctite sealant applied to the threads of the bomb suspension lugs.

Incident #16 [redacted] DASA Code 507-103

Date - 9 October 1963

1. A Mk 28 Y1 Warhead was mated to a TM 76B MACE Missile when a fire broke out in the missile.

2. An inspection of the warhead which included a visual inspection, T-304 electrical monitor test and a T-283 pressure check revealed no damage or discrepancies. There was no evidence of any component of the warhead section being subjected to high temperatures. Warhead cables leading to the warhead section were not charred or burned in any way. The warhead was rejected and returned to an AEC production facility for evaluation.

3. Cause of incident was, torque exciter bearings had frozen causing short circuit and fire.

SECRET

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Incident # 17 (S-RD) DASA Code 508-113

Date - Unknown

1. After a Mk 28 Y2 Mod 1 Warhead was unloaded from a B47E Aircraft, weapon safing procedures were begun.

2. The weapon crew chief rotated the finger wheel of the MC-1229 Ready-Safe Switch from the ready position in a clockwise direction. The switch rotated from the ready position through the safe position until it reached the ready position all in one clockwise motion. The switch was rotated from the ready to the safe position without further incident. The aircraft clip-in cables had been removed.

3. The MC-1229 was cycled to the ready position by connecting the clip-in electrical connectors. Then, with power off, the MC-1229 was cycled to the safe position. Eight cycling operations by this manner failed to duplicate the original condition whereby the MC-1229 failed to lock in the safe position.

4. Probable cause of the incident was either due to the possibility that the crew chief rotated the Ready-Safe Switch too rapidly to permit lock engagement or material failure of the MC-1229.

Incident #18 (S-RD) DASA Code 510-113

Date - 20 November 1963

1. After a high altitude flight, the pressure of a Mk 28 Y1 Mod 2 Warhead was found to be 4.75 psi.

2. The warhead was repressurized and a 24-hour pressure check performed. At the end of the 24-hour pressure check, the warhead pressure was 5 psi over the maximum allowable limits.

3. Maintenance was then performed in accordance with paragraph 3-6.2.2 of TP B28-3. Three leaks were found around the rear lift lug insert. The warhead was rejected.

4. Probable cause of the incident was due to material failure.

Incident #19 (S-RD) DASA Code 511-113

Date - 20 November 1963

1. A pressure reading of 3 psi was obtained on a Mk 28 Mod 2 Warhead during a post flight pressure check.

2. Leaks were discovered around the rear suspension lug well. Replacement of gaskets was not attempted because a leak at the lug seal was evident. Warhead was rejected.

3. Probable cause of incident was material failure.

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Incident #20 [redacted] DASA Code 509-113

Date - 19 November 1963

1. The pressure of a Mk 28 Mod 2 Warhead was down to zero after a high altitude flight.

2. Maintenance was performed in accordance with TP B28-1. The warhead failed the pressure test. Maintenance was then performed in accordance with TP B28-3. Again, the warhead failed the pressure test.

3. Cause of the incident was unknown.

Incident #21 [redacted] DASA Code 501-123

Date - 26 November 1963

1. The pressure of a Mk 28 Y1 Mod 2 Warhead indicated zero psi following a B52 flight.

2. The weapon was then pressurized to 15 psi. A leak was detected around the rear suspension lug. The warhead was rejected.

3. Probable cause of the incident was material failure.

Incident #22 [redacted] DASA Code 512-113

Date - 21 November 1963

1. Loading of an F-100D aircraft with a Mk 28 weapon was in progress when the J-2 ARM/SAFE plug solenoid pin did not retract when aircraft power was applied.

2. The J-2 ARM/SAFE plug could not be armed. The cable CF-1432 was changed with negative results. A Flight Circuit Test (FCT) of the aircraft was performed with an AN/GWM-4 Tester. Test revealed aircraft circuitry to be functional. A replacement weapon was loaded without difficulty

3. Cause of the incident was unknown.

Incident #23 [redacted] DASA Code 510-103

Date - 9 October 1963

1. Two cracks were discovered on the MC-865 X-unit during modification of a Mk 40 Y1 Mod 0 Warhead.

2. One crack was located on the P-4 side of the Lower MC-890 TR Neutron Generator and the other on the J-1 side of the MC-890 TR. The cracks began at the drilled mounting holes and continued to the top edge of the MC-865.

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3. The warhead was rejected.

4. Probable cause of incident is due to damage which occurred during manufacture when mounting holes were drilled.

Incident #24 [redacted] DASA Code 505-113

Date - Unknown

1. A Mk 43 Shape Component was stored on an AERO 12B skid during preparation for maintenance when it was discovered that the CF-1462 connector P1 cable assembly insulation was split 1-inch exposing the cable wiring.

2. Probable cause of incident was personnel error due to improper handling with the AERO 12B skid which resulted in the CF-1462 being forced against some object causing the break in the cable insulation.

Incident #25 [redacted] DASA Code 504-113

Date - 28 August 1963
22 October 1963

1. (b)(3):42 Mk 47 Warheads were involved in an incident as a result of a pin hole leak in the breath valve diaphragm which allowed salt water spray into the upper section missile tube. DTRA (b)(3).

2. There was slight corrosion and salt deposits found around mating joint flare to equipment section (b)(3):42 USC 2162(a) DTRA b(3)

3. One unit had evidence of black oxidation around joint 31-inches forward of warhead/flare joint.

4. There was no moisture within the flare assembl (b)(3):42 USC 2162(a) DTRA b(3)

5. Cause of the incident was material failure due to malfunction of the tube pressurization valve diaphragms.

Incident #26 [redacted] DASA Code 506-113

Date - 7 November 1963

1. A Mk 49 Y2 Mod 4 Warhead was rejected when it was discovered that the cables which attach to the MC-950A were damaged. The vinyl covers of two CF-1584 cable assemblies were damaged. The vinyl covers of two CF-1584 cable assemblies and one CF-1590 cable assembly were found split beyond repair.

2. Cause of the incident was unknown.

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Incident #27 [redacted] DASA Code 501-93

Date - 23 August 1963

1. Upon preparation for an Operational Suitability Test Flight Maneuver with a Mk 90 Mod 0 Weapon and while performing step E, 2 of the Navy Weapons 01-75EDA-14 check list, the N-ARM Ready Lamp went off and the N-ARM Safe Lamp did not come on after 10 seconds.

2. Weapon disassembly revealed that the MC-44 gear train had frozen.

3. Probable cause of the incident was material failure.

Incident #28 [redacted] DASA Code 507-113

Date - Unknown

1. A Mk 102 Mod 0 Weapon was being unloaded from an S-2D aircraft. During the unloading procedures, the AERO 6A pullout cable and pullout bail had been disconnected in accordance with applicable steps of NAVWEPS 01-85SAD-16 unloading check list. The pullout bail was also tucked into the afterbody.

2. The weapon had been lowered approximately half way to the bomb skid when the loading crew chief noticed the adapter plug had been pulled completely out and was resting on the top of the weapon.

3. Probable cause of the incident was due to the pullout bail working free allowing it to loop over the weapon pullout adapter plug bail bracket pin.

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ACCIDENT - INCIDENT SUMMARY

1 SEPTEMBER 1963 through 31 DECEMBER 1963

TYPE OF ACTIVITY	CAUSE: Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Materiel Failure	Other	TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD: Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																	
Tactical Air																	
Logistical Air																	
Rail																	
Ship																	
Motor Vehicle																	
HANDLING																	
Mechanical Equipment																	
Manual																	
OPERATIONS																	
Aircraft Loading and Down Loading								1	1	1	3		3				
Aircraft Postload Check								1	4		5		4				1
Warhead Mating																	
Missile Operations		1							1		2		1				1
ADM																	
Test and Maintenance	7							1	2	3	13		9	1			3
Inspection	3									1	4		3				1
Training																	
Storage																	
Aircraft Alert									1		1			1			
TOTAL	10	1						3	9	5	28		20	2			6

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Accidents and Incidents During the Period 1 December 1963 through 29 February 1964

Incident #1: (S) DASA Code 502-123

Date - 4 December 1963

1. (b) (3):42 Mk 2 Mod 0 Rocket Thrown Depth Charges (RTDC) with Mk 44 Mod 0 Warheads were stored in an ASROC magazine when the sprinkling system activated, resulting in partial flooding of the magazine. DTRA (6)(3)

2. The ASROC weapons were subjected to high velocity salt water spray for a period of approximately 5 minutes. The magazine had 4 to 6 inches of salt water which was removed by pumping and swabbing. The salt water was wiped from all the weapons. The weapons were transferred to determine the extent of damage and disposition as necessary.

3. Cause of the incident was due to slight seepage through the sprinkler system control valves and simultaneous plugging of the main control valve pressure relief drain.

Incident #2: (S) DASA Code 505-24

Date - 7 February 1964

1. During a training exercise and prior to applying torque to the thrust neutralizer on a Mk 2 Mod 0 Training Rocket Thrown Depth Charge (RTDC), the nozzle plates began turning freely while the thrust neutralizer was being hand tightened.

2. The nozzle plate restraining spring was suspected to be loose or sheared.

3. Probable cause of the incident was personnel error due to improper torquing.

Incident #3: (S) DASA Code 507-123

Date - 19 December 1963

1. During a postload check of an F-100D Aircraft with a Mk 25 Mod 3 War Reserve Weapon aboard, the J-2 ARM/SAFE Plug could not be extracted to enable movement to the ARM position.

2. This was the initial loading of the Mk 25 since it received Mod 3 rework.

3. The weapon was unloaded. The aircraft circuit was checked with an AN/GWM-4 Tester and another weapon loaded without difficulty.

4. Cause of the incident: Reference Incident Number 5.

SECRET

RESTRICTED DATA [redacted]

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Incident #4: [redacted] DASA Code 508-123

Date - 23 December 1963

1. During a postload check of an F-100D Aircraft with a Mk 28 Mod 3 War Reserve Weapon aboard, the J-2 ARM/SAFE Plug solenoid pin did not retract permitting the J-2 Plug to be extracted and rotated to the ARM position.

2. The rejected weapon was given a complete electrical test in accordance with figure 6-13 of Technical Publication B25-1. The test showed the weapon to be functional.

3. This weapon had not been loaded since undergoing a Category A Prescribed Action Link retrofit.

4. Cause of the incident: Reference Incident Number 5.

Incident #5: [redacted] DASA Code 506-123

Date - November-December 1964

1. The J-2 ARM/SAFE Plug could not be moved to the ARM position on three Mk 28 Y3 Mod 3 Retarded External (RE) War Reserve Weapons.

2. When the warhead container covers were removed, it was noted on two warheads that the P-1 female Connector from the MC-1729 Interconnecting Box, and the J-1 male Receptacle of the MC-796 Thermal Battery Pack, were burned around Pin F. In one case, Pin F had been burned off the J-1 Receptacle and was fused in the F hole of the P-1 Connector. In the other instance, Pin F of the J-1 Receptacle had disintegrated and the fragments remained in hole F of the P-1 Connector. When the warhead container cover of the third warhead was removed, J-1 Receptacle pins F and H had both disintegrated and the fragments were lodged in the corresponding P-1 Connector holes.

3. The P-4 Connector Cable between the MC-890 Neutron Generator and the MC-1729 Interconnecting Box, and the cable from J-4 on the MC-1729, were crushed where they cross the MC-1729 housing. The diameter of one of these cables is approximately 11/32 inch. The clearance between the MC-1729 and the warhead container cover where these cables cross is approximately 8/32 inch. The two cables, positioned one on top of the other, had been damaged when compressed during installation of the new warhead container cover to a combined thickness of 8/32 inch.

4. On one warhead, the external insulation of each cable had ruptured and a bare wire was visible through the torn insulation of one cable. Cables were left compressed together on the other two warheads and the container covers carefully replaced to preserve evidence of the type of damage.

5. Each of the three MC-796 Thermal Battery Packs were coated along sides and lower seams with sticky brown exudate.

6. A Prescribed Action Link modification had been accomplished on each of the three weapons. Failure of the ARM/SAFE Plug to move to the ARM position occurred in each instance during the first loading operation following performance of Technical Publication W28-512.

SECRET

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7. The F-100D Aircraft on which the weapons had been loaded had been certified before and after each loading in which the ARM/SAFE Plug malfunction occurred.

8. Each of the three weapons was given a T-304C Electrical Monitor Test before and after the loading during which the malfunction occurred.

9. Suspected cause of the crushed cables, damaged connectors, and apparently fired thermal batteries, is a deficiency in Prescribed Action Link procedures.

Incident #6: (S[redacted]) DASA Code 508-24

Date - 17 February 1964

1. A Mk 28 Y1 Mod 1 War Reserve Warhead was undergoing routine maintenance when it was noted that the forward lug insert turned approximately three quarters of a turn.

2. Probable cause of the incident was material failure.

Incident #7: (S[redacted]) DASA Code 503-123

Date - 12 December 1963

1. While attempting to remove the bomb suspension lug of a Mk 28 Y1 Mod 1 War Reserve Warhead, the lug insert rotated in the warhead case.

2. The lug could not be removed from the lug insert. The warhead was rejected.

3. Cause of the incident was material failure.

Incident #8: (S[redacted]) DASA Code 501-14

Date - 24 December 1963

1. A Mk 28 Y1 Mod 1 War Reserve Warhead was being modified to Mod 2 in accordance with Technical Publication W28-510 when the P-3 Connector was pinched between the MC-890A Neutron Generator and the container cover.

2. The P-3 Connector of the MC-708 Thyratron Controlled Pulse Circuit also was partially crushed and the lower MC-890A Neutron Generator dented.

3. Probable cause of the incident was personnel error.

Incident #9: (S[redacted]) DASA Code 507-14

Date - 15 January 1964

1. The DS2 lamp on the T304C Electrical Monitor failed to light while performing a reacceptance inspection on a Mk 28 Y1 Mod 1 War Reserve Warhead after being unloaded from an alert aircraft.

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2. The test was then performed with another T-304C and the DS2 Lamp again failed to light.

3. The GAM mounting equipment was removed and the warhead was monitored in accordance with figure 6-14 of Technical Publication B28-1. The DS2 Lamp again failed to light. The warhead was rejected.

4. A critical circuit check was performed on the aircraft with no discrepancies noted.

5. A Missile Junction Box (GAM-77A) checkout was performed on the missile in accordance with Technical Order 21-FAM 44-2-10. No discrepancies were noted.

6. Cause of the incident was unknown.

Incident #10 (RD) DASA Code 510-14

Date - 22 January 1964

1. While disassembling a Mk 28 Y1 Mod 2 War Reserve Warhead to comply with Technical Publications B28-1A and W28-510, it was noted that the socket head cap screw, located at the 6 o'clock position on the cover of the MC-706 Warhead Ballistic Case, was 1/4 inch too long.

2. The other 11 cap screws seemed very tight and possibly over torqued. The helicoil inserts were inspected. Inserts at the 6, 8, and 12 o'clock positions showed possible damage. When the cover was being replaced, the cap screw at the 12 o'clock position would not go in without over torquing.

3. Probable cause of the incident was personnel error.

Incident #11: (RD) DASA Code 504-24

Date - 13 February 1964

1. A negative pressure of approximately 6 psi was obtained on a Mk 28 Y1 Mod 0 War Reserve Weapon following a high altitude flight.

2. Probable cause of incident was material failure.

Incident #12: (RD) DASA Code 501-34

Date - 26 February 1964

1. A pressure reading of 1.5 psi was obtained on a Mk 28 Mod 2 War Reserve Weapon following a high altitude flight.

2. The weapon was repressurized and a leak detected at the left suspension lug. The weapon was rejected.

3. Probable cause of the incident was material failure.

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Incident #13: (S-RD) DASA Code 503-34

Date - 27 February 1964

1. A pressure reading of 0.25 psi was obtained on a Mk 28 Mod 1 War Reserve Warhead following a high altitude flight.

2. Pressure seals were previously replaced and the warhead passed the pressure check.

3. The valve assembly was found defective and replaced. The warhead failed the pressure check. The warhead was rejected.

4. Probable cause of the incident was material failure.

Incident #14: (S-RD) DASA Code 507-24

Date - 14 February 1964

1. A recycle inspection was being performed on a Mk 4 Re-entry Vehicle with a Mk 38 Y1 Mod 0 War Reserve Warhead installed when approximately 1 tablespoon of dark viscous liquid was found inside the weapon case.

2. The liquid accumulated at the 6 o'clock position inside the cylinder case directly below the warhead cover. Small quantities of liquid also were found at the 7 to 8 o'clock position of the joint between the warhead case and rear cover. The liquid appeared to be oil used in the motor inside the warhead.

3. There was no loss or variance in warhead pressure. A T-290 test was negative.

4. Cause of the incident was unknown.

Incident #15: (S-RD) DASA Code 502-34

Date - 27 February 1964

1. During a recycle inspection of a Mk 4 Re-entry Vehicle with a Mk 38 Mod 0 War Reserve Warhead installed, a gouge was found on the CF-1571 Cable.

2. The gouge was on the right side, 4 inches from the back-up structure. There was possible cutting into the wire that connects pin 6 on Plug P-2. The gouge was located on the edge surface of the flat cable approximately 15 inches from the connector.

3. Probable cause of the incident: Cable was pinched by inner surface of nose during engagement of the breech lock threads.

Incident #16: (S-RD) DASA Code 511-24

Date - 25 February 1964

1. The loading crew noted the Ready-Safe Switch of a Mk 43 Y1 Mod 0 War Reserve Weapon was positioned halfway between the Ready and Safe positions.

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2. The weapon was being unloaded from an F-101C Aircraft. The strike enabling plug was removed and the Ready-Safe Switch safed in accordance with Technical Publication B43A-1 procedures. The weapon was rejected.

3. Cause of the incident was unknown.

Incident #17: [redacted] DASA Code 503-24

Date - 11 February 1964

1. An XM99 Training Atomic Warhead Section, Training Rocket Motor Assembly and an SM34 Rocket Launcher were damaged as the SM34 Launcher tilted and overturned as the tow vehicle attempted to pass a stopped vehicle.

2. There were dents and scratches from station 36 to station 80 at 180 degrees clockwise from the top of the warhead section to a maximum depth of 1/8 inch. There was a dent and break of skin 6 X 6 inches from station 42 to station 45 at 150 degrees from the top of the warhead section to a maximum depth of 1 inch. There was also undetermined damage to the captive locking ring at station 79.

3. The SM34 Rocket Launcher left jack was broken from the carriage.

4. The rocket motor assembly had one of four fins severed and bent.

5. Probable cause of the incident was excessive speed and following the civilian vehicle too closely.

Incident #18: [redacted] DASA Code 506-24

Date - 22 January 1964

1. During a Navy Technical Proficiency Inspection, and while loading a P-3A Aircraft with a Mk 102 (Shape for a Mk 101 Depth Bomb), the Mk 6 Hoist Cable apparently jammed when the Mk 102 shape was approximately 1/2 inch from locking into the MAU-38A Rack.

2. Examination of the rack, Mk 6 Hoist Cable, shape and rack adapter showed the swaged fitting on the Mk 6 Hoist Cable jammed on the bottom of the rack. All racks inspected showed abrasions on the inside edge of the racks, plus abrasions on the bottom of the racks.

3. Cause of the incident: The abrasions on the inside edge of the rack and the abrasions on the bottom of the rack were caused by the hoist swaged fitting jamming on the bottom due to insufficient clearance of the hoist cable.

Incident #19: [redacted] DASA Code 505-123

Date - 20 December 1963

1. A Mk 105 Mod 0 Bomb was being moved on a wooden skid into a magazine when the weapon rocked and fell approximately 4 inches with its nose and suspension lug striking the deck.

2. Small scratches were the only visible damage.

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3. The area was monitored with a T-290A with negative results.

4. Cause of the incident was personnel error due to using improper equipment.

Incident #20: [redacted] DASA Code 506-24

Date - 17 September 1963

1. When a Mk 107 Weapon was being unloaded from an A1H Aircraft during a training exercise, the weapon rotated as it was released from the bomb rack, placing excessive strain on the CF-3019 Cable.

2. The rotation of the weapon resulted in the wiring inside the cable parting at a point half-way down the cable.

3. Probable cause of the incident was personnel error due to improper positioning of the bomb truck under the aircraft.

Accident #1: [redacted] DASA Code 506-14

Date - 13 January 1964

1. A B-52D Aircraft with two (b)(3):42 USC 2162(a) Weapons crashed while in a recovery configuration. DTRA 63.

2. The aircraft encountered severe turbulence at an altitude of 29,000 feet.

3. Both of the weapons suffered major damage. The honeycomb sections of both weapons were stripped off the basic assemblies with the exception of one section approximately 1 X 3 feet on the one weapon which appeared to have been relatively undamaged. The rear cover plate was intact. The other weapon assembly case was cracked approximately 2/3 to 3/4 of the circumference near the middle of the weapon and the rear cover plate was broken off. Parachute containers and afterbody sections of both weapons were missing.

4. There was no contamination involved.

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ACCIDENT - INCIDENT SUMMARY

1 December 1963 through 29 February 1964

TYPE OF ACTIVITY	CAUSE	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other	TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD	Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosives Components	None	
TRANSPORTATION																				
Tactical Air																				
Logistical Air																				
Rail																				
Ship																				
Motor Vehicle		1										1		1						
HANDLING																				
Mechanical Equipment																				
Manual																				
OPERATIONS																				
Aircraft Loading and Down Loading									1			1							1	
Aircraft Postload Check				3								3			3					
Warhead Mating																				
Missile Operations																				
ADM																				
Test and Maintenance		3								2		5		3					2	
Inspection									3	4		7		3	1				3	
Training		2										2		1					1	
Storage										1		1							1	
Aircraft Alert									1			1					1			
TOTAL		6		3					5	7		21		8	4		1		8	

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Accidents and Incidents During the Period 1 March 1964 through 31 May 1964

Incident #1: [redacted] DASA Code 505-64

Date - 12 May 1964

1. During an unloading exercise involving a Mk 2 Mod 0 Rocket Thrown Depth Charge (RTDC) Training Weapon, the metal surrounding the Ignition and Separation Assembly (ISA) receptacle was broken.

2. The damage occurred when the Mk 10 cable assembly was caught on the bottom snubber of the launcher cell when the missile was being moved.

3. The cause of the incident was unknown.

Incident #2: [redacted] DASA Code 510-34

Date - 17 February 1964

1. During an A4C Aircraft loading exercise involving a BDU 11/E Training Weapon, the inner connector shell P-1 of the TR CF-1645 Cable Assembly was chipped 3/4 inches around its circumference to the depth of the socket. The chipped area was adjacent to the guide slot.

2. The damage to the shell was caused by misalignment of the guide slot and subsequent forcing of the connector.

3. The BDU 11/E was not damaged.

Incident #3: [redacted] DASA Code 506-44

Date - 3 April 1964

1. A BDU 11/E Training Weapon was being loaded aboard an A1-series aircraft during a strike exercise when it dropped approximately 14 inches from the bomb rack onto the AERO 33C Bomb Truck.

2. The shape component was dented. However, the warhead section was undamaged.

3. The cause of the incident was failure of the AERO 3A Ejector Rack. The trainer had been secured on the rack, but the locking sear unlocked when the ejector foot was tightened. The locking sear was worn from use.

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Incident #4: DASA Code 515-54

Date - 23 May 1964

1. During a training operation with a Mk 17 Mod 1 Rocket Thrown Depth Charge (Inert), the nozzle plate rotated when the thrust neutralizer was torqued for removal.

2. The cause of the incident was absence of the nozzle plate retaining key.

Incident #5: DASA Code 505-34

Date - 4 March 1964

1. The MC-934 blue plastic cover of a Mk 28 Y2 Mod 1 War Reserve Weapon was damaged during a readiness exercise.

2. While loading the AERO 21A Skid, the left side of the fuze section scraped against the inside of the AERO 33D Bomb Truck causing a gouge in the MC-934. The Mk 28 Mod 1 fuze was rejected.

3. Cause of the incident was personnel error due to improper alignment of the AERO 21A Skid with the AERO 33D Bomb Truck.

Incident #6: DASA Code 504-34

Date - March-May 1964

1. Eight incidents involving Mk 28 War Reserve Warheads were due to pressure failures.

2. The cause of the pressure failures has been determined to be defective sealant. A new sealant has been tested and proven to be effective in preventing leakage. The sealant and procedures for a field fix are being made available and procedures for use of the sealant will be contained in Technical Publications W28-1 and W28-3.

Incident #7: DASA Code 511-34

Date - March-April 1964

1. Eight incidents involving Mk 28 War Reserve Warheads and weapons occurred when the suspension lug inserts rotated during attempts to remove the suspension lugs.

2. The cause of the incidents was use of an excessive amount of loctite sealant.

3. Retrofit Order W28-515, which prescribes proper use of the sealant, should eliminate further lug insert problems.

[redacted] SECRET

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Incident #8: [redacted] DASA Code 514-64

Date - 17 March 1964

1. While performing Technical Publication H28-1A procedures on a Mk 28 Y4 Mod 1 Exter Weapon, the MC-1100 X-Unit Cable was found crushed between the top front cover of the side mounted MC-890 Neutron Generator and the component shelf.

2. The MC-890 was removed to enable inspection of the cable. Both the vinyl sleeving and wire insulation were cut to the extent that the conductor could be seen, causing the cable to be re jected.

3. The Inspection Record Card (IRC) indicated the warhead pressure cover had not been removed since rework to Mod 1.

4. The probable cause of the incident was personnel error; i, e., improper assembly procedures.

Incident #9: [redacted] DASA Code 505-64

Date - 11 May 1964

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162

2. The preformed packing ring was deformed, showing that the detonator cable had been pressed against it and had been severed during installation of the cover. The warhead was rejec

3. The probable cause of the incident was personnel error.

Incident #10: [redacted] DASA Code 514-64

Date - 20 May 1964

1. A postload check was being performed on a B-52G Aircraft when an intermittent light wa observed on the PRESS-TO-TEST lamp of the DCU-9A Inflight Control Monitor.

2. A Mk 28 Y1 Mod 0 War Reserve Full Fuzing Internal Shape Component was in the lower left position of the MHU-20/C Clip-in Assembly during the test. All indications were normal du monitoring of the other weapons. When the CF-1651 Cable Assembly was moved near the recept at the weapon, the proper monitoring indication was received.

3. Trouble shooting of the aircraft system and MHU-20/C Clip-in Assembly revealed no deficiencies.

4. Cause of the incident was unknown. A post mortem is scheduled for the CF-1651 Cable Assembly.

[redacted] SECRET

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Incident #11: [redacted] DASA Code 508-54

Date - 11 May 1964

1. An XM55 Atomic Demolition Charge with a Mk 30 Warhead installed was involved in an incident during logistic movement.

2. Upon removal of the protective cover from the XM113 Case during performance of a receipt inspection, it was discovered that the bottom padlock of the case cover assembly was missing from the hasp. The padlock was found lying immediately below the hasp with the shackle severed from the padlock. The shackle had been broken at its weakest point.

3. The probable cause of the incident was personnel error due to excessive pressure exerted on the protective cover by improper shoring, careless removal of the shoring material, or improper use of handling equipment during loading and unloading.

Incident #12: [redacted] DASA Code 504-44

Date - 13 March 1964

1. One Mk 22 War Reserve Warhead Section with a Mk 45 Mod 0 War Reserve Warhead installed was undergoing maintenance inspection when the Warhead Section slipped off the J-Bar Adapter Assembly from which it was suspended and fell 18-24 inches onto the concrete deck.

2. The Warhead Section fell during the shift of the J-Bar Adapter Assembly from the vertical to the horizontal position for installation in the H-3323 Cradle Band. The after closer assembly of the Mk 9 structure was out of round and had several hair line fractures. Upon removal, the after closer assembly split into two pieces.

3. The Mk 45 Warhead was removed and tritium checks before and after removal of the reservoir access cover were negative. No damage other than that to the after closer assembly was observed.

4. Probable cause of the incident: It appeared that the J-Bar Adapter Chuck was installed and rotated out of position on the opposite side of the lock stock. Although the arrow was slightly displaced from the "SECURE" position, subsequent examination disclosed that the arrow can be moved outside the "SECURE" area on the proper side and still be locked.

Incident #13: [redacted] DASA Code 512-44

Date - March-April 1964

1. Three incidents involved the MC-1199 Electrical System Safing Switch of the Mk 53 Mod 0 Basic Assembly. On all three weapons, the MC-1199 could be rotated manually from the SAFE to the FREE FALL position but could not be turned to RETARD except upon application of aircraft power.

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2. Checks of other Mk 53 Mod 0 Weapons indicated that the MC-1198 switches (b)(3):42 USC 2162(a) required greater than normal force to change options even with aircraft power applied.

3. The problem is being investigated by the appropriate design agency.

Incident #14: [redacted] DASA Code 508-44

Date - 8 April 1964

1. The DS2 lamp of the T-304C Multiple Purpose Continuity Test Set failed to light while procedures contained in paragraph 8-3.3.4 of Technical Order 11N-B53-1 were being performed on a Mk 53 Mod 0 Basic Assembly.

2. The test was repeated with another tester and cables with the same result. The basic assembly was rejected in accordance with paragraph 8-3.3.4 of Technical Order 11N-B53-1.

3. Visible areas of the POD and basic assembly were inspected with no indications of defective components, or of unauthorized tampering with the basic assembly.

4. Cause of the incident: Disassembly by an AEC contractor revealed that the pressure, temperature sensitive switch MC-1272 was defective.

Incident #15: [redacted] DASA Code 506-34

Date - 9 March 1964

1. A Mk 11 Re-entry Vehicle (R/V) was being assembled following installation of a Mk 56 Mod 1 War Reserve Warhead. Test 07 using a Re-entry Vehicle Test Set, Type A/E 24 T-43, indicated a safety monitor warhead fault.

2. Tests 04, 01, 02, 06, and 05 were satisfactory.

3. Emergency procedures in accordance with paragraph 4-9 of T.O. 11N-RV11-2 were performed.

4. EOD personnel inspected the warhead and determined that the system was not activated. A T-290 Test was negative.

5. The Re-entry Vehicle Test Set and cable was then used to run Test 07 on another R/V in a similar configuration with no malfunction indicated.

6. Cause of the incident was determined to be a loose cable connector.

Incident #16: [redacted] DASA Code 518-34

Date - 28 March 1964

(b)(3):42 USC 2162(a)

1.

(b)(3):42 USC 2162(a)

 RE[redacted]A DATA

2. All the weapons stored in multi-cubicle type magazines had been inundated with water for an undetermined period of time (b)(3):42 USC 2162(a) Visual inspection indicated no damage and monitoring with a T-3024 indicated no malfunctions. Tests indicated loss of pressure in one weapon. DTRA b3

3. The Mk 57 Weapons were returned to an AEC facility for post-mortem examination.

4. The Mk 34 Warheads were sent to a Navy facility for a determination of the moisture content of the power supplies.

5. The cause of the incident was an act of nature.

Incident #17: [redacted] DASA Code 513-44

Date - April-May 1964

1. Four incidents occurred involving Mk 101 Mod 0 Depth Bombs. During inspection of the bombs, it was discovered that cables were pinched, insulation was broken and peeled, and stress had been placed on the cables.

2. The probable cause of the incidents was a combination of personnel error and material failure. Damage to the cables resulted from failure to keep the cables in proper position as required by the "CAUTION" after paragraph 7-2.7.15 of Navy SWOP B101-1. Other damage apparently was caused by deterioration of cable insulation.

Incident #18: [redacted] DASA Code 510-54

Date - 16 May 1964

1. During loading of a Mk 102 Practice Depth Bomb aboard a SP2H Aircraft, the Mk 8 shackle released at step 12 of the loading check list. The weapon fell approximately 1 inch until restrained by the cable of the Mk 8 bomb hoist.

2. The design of the safety lock which does not permit simple positive installation action is believed to have caused the incident.

Incident #19: [redacted] DASA Code 519-34

Date - 28 March 1964

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a) DOE b(3)

2. All weapons checked out satisfactorily. One weapon was returned for recertification. Based on the results of the tests performed on the weapon returned for recertification, all the other weapons were recertified.

3. The cause of the incident was (b)(3):42 USC 2162(a) DTRA b3

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Incident #20: (S) DASA Code 504-64

Date - May 1964

1. An H-237 was being transferred from ship to pier when the container was dropped approximately 2 feet to the pier.

2. Slings were reeved through the container handles for added stability during transfer. However, when handling slings were unhooked from around the load, a sling caught on one handle of the H-237, causing it to topple and fall. The handle was pulled from the container. No other damage was observed.

3. The probable cause of the incident was personnel error due to improper reeving procedure.

Incident #21: (S) DASA Code 515-64

Date - 22 May 1964

1. Inspection and test on a Mk 53 Mod 0 War Reserve Weapon following a high altitude flight indicated a malfunction; i. e., the DS1 lamp of the T-304 Multiple Purpose Continuity Test Set lighted and the DS2 lamp did not light.

2. The cause of the incident is being determined at an AEC facility.

Incident #22: (S) DASA Code 501-64

Date - 26 May 1964

1. During reservoir and neutron generator replacement on a Mk 28 Y3 Mod 3 War Reserve Warhead, the W-1 cable of the MC-1100 X-Unit was found damaged.

2. Inspection indicated that the W-1 cable had been crushed between the top front corner of the MC-1140, neutron generator, and the component shelf.

3. The X-Unit is being returned to an AEC facility for post-mortem.

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ACCIDENT - INCIDENT SUMMARY

1 MARCH 1964 through 31 MAY 1964

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None		
TRANSPORTATION																				
Tactical Air																				
Logistical Air																				
Rail	1											1		1						
Ship																				
Motor Vehicle																				
HANDLING																				
Mechanical Equipment	3											3		2	1					
Manual																				
OPERATIONS																				
Aircraft Loading and Downloading	1	1							1			3		1	1				1	
Aircraft Postload Check			1									1			1					
Warhead Mating			1			1						2			1				1	
Missile Operations																				
ADM																				
Test and Maintenance	2	1	2					1	2			8		3	4				1	
Inspection	2											2			2					
Training	1											1		1						
Storage						1						1							1	
Aircraft Alert																				
TOTAL	10	2	4	0	0	2	0	1	3	0		22	0	8	10	0	0	0	4	

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Accidents and Incidents During the Period 1 June 1964 thru 31 August 1964

Incident #1: [redacted] DASA Code 501-74

Date - 2 July 1964

1. During a training exercise with a XM3 Coder Transmitter using external power to achieve simulation of actual conditions, the transmit button was pushed, causing the equipment to fail to operate.

2. A storage inspection was then performed with new fuzes. The coder transmitter failed to pass the functional test.

3. The cause of the incident was personnel error due to the supervisor reading the step to push the transmit button without warning the technician that the step should not be performed while using external power without the antenna being erected.

Incident #2: [redacted] DASA Code 503-64

Date - 11 June 1964

1. An ASROC-4 Training Missile was being unloaded with a loader crane when the Mk 10 Umbilical Cable, bound on the after snubber of the launcher, was torn off.

2. Pins on the Ignition and Separation Assembly (ISA) connecting plug were bent and the ISA connecting plug broke loose from its mounting.

3. The cause of the incident was personnel error due to inattention of the handling personnel.

Incident #3: [redacted] DASA Code 504-74

Date - 8 July 1964

1. The forward vapor barrier of the H-65B Trailer Mounted Bomb Container of a Mk 7 Mod 5 Training Weapon was dented in an area 5 x 5 x 1 inch deep and the case sustained a 3-inch split when the H-65B struck a ship's structure while being transferred aboard the ship.

2. Transfer was being conducted by secondary conventional single Burton method. The damage occurred as a result of slacking outboard whip as per normal Burton procedure causing the weapon to swing into Station M - frame face.

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3. The cause of the incident was considered to be a combination of personnel inexperience and insufficient lateral clearance between the Burton suspension joint and M-frame face.

Incident #4: [redacted] DASA Code 502-64

Date - 5 June 1964

DOE 6-3

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(

2. The female contact of the bayonet connector had separated at the solder to metal juncture. Pieces of the female contact were found adhered to the male side of the connector assembly.

3. The cause of the incident was unknown.

Incident #5: [redacted] DASA Code 503-74

Date - 1 July 1964

1. While performing Alt 223 on a Mk 28 Y1 Mod 1 War Reserve Weapon the CF-1436 Cable Assembly was discovered damaged.

2. The vinyl sleeving had a tear one-half inch in length approximately 5 inches from the J-2 Connector. There was also approximately one-half inch of insulation torn from one wire of the branched cable.

3. Probable cause of the incident was personnel error during previous assembly.

Incident #6: [redacted] DASA Code 507-64

Date - 15 June 1964

1. The threads of the tapped hole on the left side of a Mk 28 Y2 Mod 2 War Reserve Warhead were stripped.

2. Maintenance personnel had installed the Adapter, Lifting P/N 133900-00 on the MC-706 Ballistic Case. When torque was applied to one of the cap screws, the screw continued to turn preventing application of proper torque. Upon removal of the adapter, the helicoil insert and tapped threads of the warhead were found to be damaged preventing proper installation of the replacement helicoil insert.

3. Probable cause of the incident was material failure.

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Incident #7: [redacted] DASA Code 505-64

Date - 12 July 1964

1. The rear lug insert of a Mk 28 Y1 Mod 1 War Reserve Warhead turned approximately 1 inch while the lugs were being aligned to accept the H-418A Bomb Hoist Adapter.

2. The probable cause of the incident was due to excessive use of Grade "A" Loctite Sealant.

3. Retrofit Order W28-513, which prescribes proper use of the sealant, should eliminate further lug insert problems.

Incident #8: [redacted] DASA Code 506-64

Date - 16 June 1964

1. The plastic component shelf on a Mk 28 Mod 2 War Reserve Warhead was cracked where the shelf attaches to the lower MC-890 Neutron Generator.

2. Reservoir exchange had been completed and preparations were being made to remove the MC-890 Neutron Generator. Prior to any wrench being applied to the bolts supporting the MC-890 to the component shelf, four cracks were observed in the mounting flange of the plastic component shelf.

3. Further examination revealed a gap 0.025 inch between the mating surfaces of the shelf and the MC-890.

4. The exact cause of the incident was unknown; however, the cracks may have been caused by either of the following: (1) A defective component shelf or (2) subsequent torqueing of the cap screws after fastening the MC-890 and the component shelf together.

Incident #9: [redacted] DASA Code 510-64

Date - 21 June 1964

1. A Mk 28 Y1 Mod 2 War Reserve Warhead failed the second 24-hour pressure test following maintenance.

2. The warhead failed the first 24-hour pressure test with a 0.32 differential and the second 24-hour pressure test with a 0.29 differential. The pressure record card indicated there was approximately 7 psig drop per 30 days.

3. After repeated pressure losses, all the seals, preformed packings, and a valve were replaced. On 19 June 1964, the container cover, valve, P/N 137961-00, and all preformed packings and seals were changed.

4. The cause of the pressure failures has been determined to be defective sealant. A new sealant has been tested and proven to be effective in preventing leakage. The sealant and procedures for a field fix are being made available and procedures for use of the sealant will be contained in Technical Publications W28-1 and W28-3.

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Incident #10: [redacted] DASA Code 509-64

Date - 17 June 1964

1. A zero pressure reading was obtained on a Mk 28 Y2 Mod 2 War Reserve Warhead.

2. The warhead had a record of previous pressure losses, at which time seals on the container cover and seal, P/N 152024-00, were replaced.

3. The warhead was rejected.

4. Cause of the incident: Reference Incident #9.

Incident #11: [redacted] DASA Code 502-74

Date - 5 July 1964

1. Three radial cracks were discovered on the component shelf of a Mk 28 Mod 2 War Reserve Warhead while performing procedures in accordance with Technical Publication B28-1A.

2. The reservoir and valve assembly were removed. While inspecting the area that surrounds the inserts on the component shelf the three radial cracks were discovered. The cracks were located at the top left insert which is used to attach the reservoir and valve mounting plate.

3. The warhead was rejected.

4. Probable cause of the incident was material failure.

Incident #12: [redacted] DASA Code 506-74

Date - 13 July 1964.

1. Following a high altitude flight the plastic cover of the MC-1531 Differential Pressure Inducer of a Mk 28 Y1 Mod 2 War Reserve Weapon was missing and the fence was protruding.

2. The weapon was mounted in the upper right position of the MHU-20C Clip-in Assembly. The cover apparently came loose during flight, dropped off, and could not be found.

(b)(3):42 USC 2162(a) PTRA b(3)

3. Post mortem of the fuze disclosed the only damage was the missing cover. The [redacted] in the MC-1531 had not been fired. The fence did protrude one-half inch; however, this is normal.

4. Cause of cover breaking off undetermined.

Incident #13: [redacted] DASA Code 505-64

Date - 15 June 1964

1. A reservoir and valve change was being performed on a Mk 28 Y1 War Reserve Warhead when three radial cracks were discovered on the component shelf.

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2. The cracks extended from around the insert which is used to attach the MC-796 Thermal Battery Pack to the component shell.

3. The warhead was rejected.

4. The probable cause of the incident was material failure.

Incident #14: [redacted] DASA Code 504-64

Date - 10 June 1964

1. A Mk 28 Mod 2 War Reserve Warhead was being prepared for mating in accordance with Technical Order 11N-W28, 54-1CL-1, when a pressure leak was detected at the 1130 o'clock position of the forward lug insert.

2. The probable cause of the incident was design deficiency.

Incident #15: [redacted] DASA Code 508-64

Date - 16 June 1964

1. (b)(3):4 Mk 38 Mod 0 War Reserve Warheads were being inspected after operational use when scratches over 0.010 inch deep were discovered on the stiffening rings of each warhead. DTRA (b)(3)

2. The scratches were of undetermined origin; however, they probably were caused during performance of Alt 225.

Incident #16: [redacted] DASA Code 509-74

Date - 23 July 1964

1. The booster bottle of a Mk 43 Mod 0 War Reserve Weapon was being charged in accordance with Technical Publication B43A-1A. When the steps in figure 6-3, Technical Publication B43A-1 were being performed it was discovered the unit would not pressurize.

2. The weapon was disassembled to make the necessary repairs when it was noted that the first support ring was attached to and moving with the pressure bulkhead as it was being withdrawn. Inspection revealed that the (b)(3):42 USC 216 cables routed to the MC-991 Firing Set had been inadvertently withdrawn. The weapon was reassembled and resealed to prevent further damage. DTRA (C)

3. Cause of incident pending post mortem examination at Atomic Energy Commission repair facility.

Incident #17: [redacted] DASA Code 507-74

Date - 18 July 1964

1. While performing an electrical monitor of a Mk 53 Y1 Mod 0 War Reserve Weapon with a T-304C Multiple Purpose Continuity Test Set, the DS1 lamp lit, but the DS2 lamp would not light.

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2. Another T-304C was used with the same results.

3. The weapon was rejected in accordance with paragraph 8-3.1.3, Technical Publication 30B-1.

4. Cause of incident pending post mortem examination at Atomic Energy Commission repair facility.

Incident #18: [redacted] DASA Code 511-74

Date - 30 July 1964

1. Mk 25 Mod 0 War Reserve Warhead was undergoing a general inspection and test when an unusual sound was heard within the warhead assembly.

2. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE (3)

3. Cause of the incident pending post mortem examination at Atomic Energy Commission repair facility.

Incident #19: [redacted] DASA Code 505-84

Date - 25 August 1964

1. (b)(3):4 Mk 28 Y1 Mod 2 War Reserve Warheads were being inspected when a radial crack was found on the component shelf of each weapon. PTRA (b)(3)

2. The cracks were located around the inserts which are used to attach the reservoir to the valve mounting plate. The cracks exceeded 0.50 inch as specified in paragraph 4-2.17.2, Technical Publication B28-1A.

3. The cause of the incidents were unknown.

Incident #20: [redacted] DASA Code 502-84

Date - 12 August 1964

1. During repackaging of the Mk 28 Mod 1 Fuze, the blue plastic cap was detached from the MC-934 Differential Pressure Inducer.

2. Masking tape had been applied over the blue plastic cap while the fuze was being painted. It was believed that the cap loosened when the tape was removed due to the pulling force of the tape. When the security cover was later pulled over the fuze it dislodged the blue plastic cap.

3. The probable cause of the incident was personnel error.

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Incident #21: (~~SRD~~) DASA Code 507-84

Date - 26 August 1964

1. During the preloading monitor of a Mk 43 Mod 0 War Reserve Weapon, the pressure light failed to illuminate.

2. The pressure of the weapon was 5 psig. It was then pressurized to 16.00 psig at whic time a leak was detected around the glass of the Safety Switch Observation Window. The weapon was rejected.

3. Probable cause of the incident was material failure due to the sealant around the obse vation window failing.

Incident #22: (S) DASA Code 501-84

Date - 15 June 1964

1. The protective nose cover of a Mk 43 War Reserve Weapon was dented and the fibers o the lamination under the rain-errosion protective coating was damaged. The weapon was on a AERO 21A Bomb Skid which was positioned on a AERO 33C Bomb Truck when the brakes of the AERO 21A failed, which allowed the weapon to move forward striking its nose on the forward end of the AERO 33C.

2. The cause of the incident was a slight bind in the brake handle which would not allow it to return to the full open or braking position, thereby causing the brakes on the AERO 21A to fail. This condition was not observed by the loading team until after the damage occurred.

Incident #23: (S) DASA Code 504-84

Date - 27 August 1964

1. A Mk 101 Depth Bomb was damaged during logistics shipment.

2. There was evidence that the weapon had been dropped on the left forward nose of the H- 3129 Bomb Skid Container. The container was bent to the right 1-3/4 inches and the metal broke The bomb was gouged on the nose radius at the four-o'clock position and across the front of the nc when it came in contact with the container.

3. Probable cause of the incident was personnel error due to damage during logistics shi ment.

Incident #24: (S) DASA Code 503-84

Date - 7 August 1964

1. A Mk 101 Depth Bomb with a Mk 34 Mod 2 War Reserve Warhead installed was in the process of having the warhead removed from the Mk 101 Depth Bomb Case when the warhead fell through the forward case to the base of the H-3087 Assembly Stand.

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2. The maintenance team had omitted steps 14, 15, 17, 18, and 19 of the check list. When step 20 was performed, which calls for removing 12 screws securing the adapter ring to the warhead, the warhead fell a distance of 6-inches coming to rest on some metal bands.

3. The impact point of the warhead was the MC-825 Neutron Generators. There were several small dents and paint chipping on the MC-825's. No other components appeared to be damaged because the neutron generators hit the pile of metal bands which prevented the reservoir and electrical safing plug from striking anything.

4. The cause of the incident was personnel error, in that the technicians did not follow proper procedures as set forth in Technical Publication B101-1 and the check list.

Incident #25: (Ø) DASA Code 506-84

Date - 19 August 1964

1. Mk 183 Container containing an ASROC Rocket Thrown Depth Charge (RTDC) Inert Training Weapon was dented and punctured in two places.

2. The container was damaged when the ASROC Launcher depressed upon it; however, the weapon was not damaged nor was it subjected to shock, crushing, or stress.

3. The cause of the incident was personnel error as the launcher was placed in motion before communication was established with the launcher safety observer. Therefore, the operator was unaware of the container beneath the elevating guide.

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ACCIDENT - INCIDENT SUMMARY

1 JUNE 1964 through 31 AUGUST 1964

TYPE OF ACTIVITY	CAUSE												TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD						
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other				Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																			
Tactical Air																			
Logistical Air																			
Rail																			
Ship	1													1					
Motor Vehicle																			
HANDLING																			
Mechanical Equipment																			
Manual	1																		1
OPERATIONS																			
Aircraft Loading and Downloading		1												1					
Aircraft Postload Check																			
Warhead Mating				1										1					
Missile Operations	1																		
ADM																			
Test and Maintenance	3							6	6					11				4	
Inspection								2						2					
Training	2																	3	
Storage																			
Aircraft Alert								1						1					
TOTAL	8	1		1				9	6				25	17				8	

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Incident #1: (~~S RD~~) DASA Code 503-94

Date - 5 September 1964

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE 3

2. The missiles were washed with fresh water, hand dried and the magazine vented to facilitate drying. The investigation revealed no apparent damage to the missiles.

3. The cause of the incident was activation of the sprinkler system during the course of fighting a fire in the forward boiler room of the ship.

Incident #2: (C) DASA Code 502-94

Date - 28 August 1964

1. A BDU-6E Training Weapon loaded aboard an A4E Aircraft was damaged when the air hose from a gas turbine compressor disconnected at the aircraft receptacle and struck the weapon.

2. The hose dropped clear of the aircraft, rebounded off the flight deck and struck the left side of the weapon fuze section leaving a dent 8-inches in diameter and 3/8-inch deep, located 2-inches aft and 4-inches above the plenum block. The right side of the weapon had a dent 3-inches in diameter and 1/8-inch deep, located 2-inches forward and 6-inches below the plenum block.

3. The probable cause of the incident was personnel error.

Incident #3: (S) DASA Code 502-114

Date - 27 October 1964

1. During a storage inspection of a Mk 7 Mod 5 War Reserve Bomb, a detonator adapter was found slightly cracked.

2. The crack began at the bayonet pin hole and extended approximately 1/8-inch outward to the edge of the adapter. The bayonet pin was worn to approximately one-half of its original diameter.

3. The probable cause of the incident was material failure due to fair wear and tear.

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Incident #4: ~~(S)(RD)~~ DASA Code 506-114

Date - 10 November 1964

(b)(3):42 USC 2162(a)

1.

DOE b(3)

(b)(3):42 USC 2162(a)

2. (b)(3):42 USC 2162(a)

The T-27 was recalibrated prior to rejection.

3. The cause of the incident was unknown.

Incident #5: ~~(S)~~ DASA Code 501-104

Date - 24 September 1964

1. A Detonator Cable check was being performed on a Mk 25 Mod 0 War Reserve Warhea in accordance with Technical Publication W25-1 when a high resistance reading of 0.30 ohms wa obtained.

2. The high resistance reading was obtained after satisfactorily accomplishing Technical Publication W25-504 and prior to mating of the warhead to the AIR-2A Rocket.

3. The cause of the incident was unknown.

Incident #6: ~~(SRD)~~ DASA Code 507-114

Date - 17 November 1964

1. A B-52 Aircraft was responding to an alert exercise when the Number 5 starter disint grated and threw fragments into the right-hand Air-To-Ground Missile (AGM) with a Mk 28 Y1 M War Reserve Warhead installed.

2. Fragments from the starter penetrated the weapon case approximately 24 inches from front of the forward coupling ring. Penetration of the fragments was approximately 2-3/8 inches. The fragments apparently struck at right angles to the longitudinal line of the case surface with nc evidence of penetrating at a forward or rearward angle. The hole was approximately 4-1/2-inche long and 1-inch wide.

3. Fragments also punctured the skin of the missile causing minor damage.

4. The cause of the incident was aircraft starter failure.

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Incident #7: ~~(S)~~ DASA Code 503-114

Date - 30 October 1964

1. A reservoir and valve change was being performed on a Mk 28 Mod 2 War Reserve Weapon when it was noted that the MC-1100 X-Unit mounting plate had 10 cracks at the threaded insert which receives the upper left MC-888 Arming-Safing Switch Assembly mounting bolt.

2. The longest crack extended one-half inch radially from the insert. The depth of the crack could not be determined; The cracks were so located that pieces of the plastic insert could be dislodged. The face of the insert showed a mushrooming condition of the plastic material.

3. The cause of the incident was unknown.

Incident #8: ~~(SRD)~~ DASA Code 506-104

Date - 12 October 1964

1. During inspection of a Mk 28 Y1 Mod 2 War Reserve Weapon X-Unit, the wire of the cable that joins with Wire W-2 at the top of the electrical contact (Figure and Index Number 12-50, Technical Publication B28-4) appeared to be crushed or pinched.

2. After the MC-796 Thermal Battery Pack was removed, it appeared that the wire was pinched where the innermost bottom side of the MC-796 made contact with the wire after the MC-796 had been mounted and torqued to the X-unit subassembly.

3. The pinched portion of the cable was about 3 inches from the left edge of the cable flange P/N 137969-00. The MC-796 evidently caused the wire to be placed under tension between the pinched area and the flange.

4. The post-mortem examination confirmed that the cable had been pinched, probably by the installed battery. A note will be added to procedures in Technical Publication B28-1A and Technical Publication B28A-1A, requiring a check for adequate slack in the wire.

Incident #9: ~~(S)~~ DASA Code 504-104

Date - 2 October 1964

1. A pressure reading of zero was obtained on a Mk 28 Mod 2 War Reserve Warhead following a high altitude flight.

2. The warhead was employed in a full fuzing option bomb and assembled in an MHU-20/C clip-in assembly.

3. After recovery, the warhead seal was replaced and the warhead pressurized in accordance with Technical Publication B28-1. A leak was discovered underneath the Mod 2 external reinforcing ring. The warhead was rejected.

4. The cause of the incident was material failure.

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Incident #10: (SRD) DASA Code 508-114

Date - 19 November 1964

1. Three incidents occurred involving Mk 28 War Reserve Warheads when cracks were covered around the component shelf mounting holes and inserts.

2. One warhead had a crack that extended completely around the mounting bracket, thro the leading edge to the outer edge of the mounting hole. There also was a crack approximately 13/32 of an inch in length that ran toward the X-unit.

3. The second warhead had two radial cracks approximately 1/4 of an inch in length at o of the four inserts in the component shelf.

4. The third warhead had more than two radial cracks around each insert.

5. The probable cause of the incidents was material failure.

Incident #11: (SRD) DASA Code 505-114

Date - 9 November 1964

1. While performing procedures in accordance with paragraph 4-4.15, Technical Public B28-1A, on a Mk 28 Y1 Mod 1 War Reserve Warhead, a gland nut sheared prior to reaching the quired torque.

2. The nut sheared approximately two threads from the hex drive. The remainder of th threaded portion of the gland nut was still installed in the Type 1A-22 Reservoir P/N 420933-01.

22

3. The warhead was rejected.

4. The cause of the incident was unknown.

Incident #12: (CRD) DASA Code 505-94

Date - 4 September 1964

1. During a recycling operation and nose change of a CGM-13B missile with Mk 28 Mod War Reserve Warhead installed, the press-to-test lamp of the G-switch failed to light.

2. The recycling operation was not completed when a crew change was made. The new c began procedures with Line 69, Step 600 of Technical Order 21M-CGM-13C-1-1. The remaining items in Operation 9, Items 7 through 23 were completed by the new crew. The only problem en countered was the failure of the G-switch press-to-test lamp to light. The bulb was replaced an count continued satisfactorily. Item 1, Operation 10, was completed when the crew was advised the warhead monitor on the Launch Command and Status Console indicated unsafe. The warhead electrical cables were disconnected and the Explosive Relay Package (ERP) removed. The warh was then checked by munitions personnel. The ERP was tested with a 1015 BF test set with six no-go" tests resulting from eight tests indicating failure of the six arming, match type, explosiv relays in the ERP. A new ERP was installed and complete system checked satisfactorily.

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3. Time Compliance Technical Order 21A-CGM-13C-597 which provides an interlock to the Safety and Arming Test Set had not been performed on the test set in use at the time of the incident.

4. The Safety and Arming Box option select switch was in the low altitude position throughout the complete operation. Therefore, it was in this position when the ERP was fired. The warhead was connected to the safety and arming circuits and the option switch was in the low altitude position at this time also.

5. It was the opinion of the personnel making the investigation that the ERP detonated prior to the warhead connection although it was not discovered until the warhead monitor on the launch console indicated unsafe. Information in paragraphs 3 and 4, above, was obtained due to a remote possibility that the current which fired the ERP squibs could also have entered the warhead MC-708 Option Select circuits if the warhead was connected when the incident occurred.

Incident #13: ~~(S)~~ DASA Code 504-114

Date - 2 November 1964

1. During a recycling operation of a Mk 4 Re-Entry Vehicle with a Mk 38 Mod 0 War Reserve Warhead installed and upon reassembly of the nose section with the warhead section the gap between the nose and warhead was less than 0.003 inches.

2. The nose was then removed and the warhead and nose sections were checked for negative and positive protrusion of the ablative shield. The nose section had approximately 0.010 to 0.014 inch positive protrusion. There were also two gouges in the front pressure dome that exceeded acceptable limits as specified in paragraph 9-4.3.10 of Technical Publication W38-1.

3. Authority was granted to burnish the two gouges.

Incident #14: ~~(S)(RD)~~ DASA Code 501-114

Date - 31 October 1964

1. Activation of a ship's sprinkler system flooded the compartment where Mk 43 and Mk 28 War Reserve Weapons and Shape Components were stored.

2. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE (b)(3)

3. The salt water residue was removed and the cases dried. Satisfactory inspection and test of all units have been completed.

4. The cause of the incident was due to the power check in the sprinkler system being plugged with salt residue, which caused pressure to build up and activate the sprinkler system.

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Incident #15: (SRD) DASA Code 504-94

Date - 4 September 1964

1. The monitor lamp assembly of a Mk 43 Y1 Mod 0 War Reserve Weapon did not light d monitoring indicating low pressure in the warhead.

2. A pressure check performed in accordance with paragraph 8-3.2 of Technical Public B43A-1 indicated a pressure reading of less than 10 psig.

3. The probable cause of the incident was material failure.

Incident #16: (SRD) DASA Code 501-94

Date - 31 August 1964

1. During a pressure check of a Mk 43 Y1 Mod 0 War Reserve Weapon, it was discovere that the weapon was losing pressure at the rate of approximately 3 psig per 24-hour period.

2. The weapon had a history of pressure failures.

3. The probable cause of the incident was material failure due to failure of the pressure

Incident #17: (SRD) DASA Code 505-104

Date - 7 October 1964

1. During an acceptance inspection of the Mk 43 Y1 Mod 1 War Reserve Basic Assembly (BA), the aft lamp assembly failed to light when the knob was turned (paragraph 5-4 of Technical Publication B43B-1).

2. The MC-1147 Strike Enabling Plug was removed as outlined in paragraph 5-4.5 and pa graph 9-4.2 through 9-4.2.4 of Technical Publication B43B-1. Maintenance was then performed accordance with paragraph 6-5.5 through 6-5.5.15. Upon completion of the maintenance, the we was reassembled and a test was conducted with the same results as before. In addition to the ab the MC-903 Radar Set Fuzing and the MC-996 Forward Fuze Section were removed from another weapon and installed. A new MC-1166 Interconnector, Receptacle, Electrical was also installed. After installation, another test was conducted in accordance with paragraph 5-4 with the same re sults as before. The weapon was then reassembled with its original components.

3. The post-mortem revealed nothing wrong with the weapon. The aft lamp assembly did light when the knob was rotated counterclockwise as specified in paragraph 5-4 of Technical Publ cation B43B-1.

Incident #18: (SRD) DASA Code 511-104

Date - 29 October 1964

1. A submarine missile tube with a missile installed was being pressurized to clear the humidity in the tube when the diaphragm ruptured. The missile had a Mk 47 Y2 Mod 2 War Reser Warhead installed.

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2. The sudden increase in pressure in the upper zone buckled the guidance door and chipped the edge of the Re-Entry Vehicle separation ring assembly in two places.

3. The cause of the incident was personnel error as the upper zone pressurization valve was closed causing pressure to build up over the diaphragm.

Incident #19: (S) DASA Code 503-104

Date - 2 October 1964

1. A Mk 53 War Reserve Weapon failed to pass the 30-day Electrical Monitor Inspection.

2. The DS-2 lamp of the T-304C, Multiple Purpose Continuity Test Set, failed to light while performing the procedures in accordance with paragraph 8-4.2.1 of Technical Publication B53-1. The DS-1 lamp functioned normally during that portion of the test.

3. Additionally, a pressure check was accomplished with an acceptable pressure of 11.0 psi.

4. Another T-304C Tester was used with the same results. The weapon was rejected.

5. The probable cause of the incident was unknown.

Incident #20: (~~SRD~~) DASA Code 507-104

Date - 13 October 1964

1. During a special inspection of a B-58A/BLU-2B/Mk 53 Y1 War Reserve Basic Assembly (BA) Pin U in Plug P4 of the CT 1360 Cable was discovered to be oversized.

2. When the plug was connected to the J-3 Connector on the Mk 53 Basic Assembly, it jammed into Pin U of the J-3 Connector. When P4 was removed from J-3 during the Electrical Monitoring Test of the BA, Pin I was pulled out of the Connector J-3.

3. The cause of the incident was due to Pin U of the CT 1360 Cable being oversized.

Incident #21: (C) DASA Code 502-104

Date - 21 September 1964

1. A Mk 102 Mod 0 Trainer loaded aboard a P3A Aircraft released from the MAU 38/A Bomb Rack Assembly and fell onto the bomb bay doors.

2. The probable cause of the incident was due to improper rigging of the manual release rod assembly on the MAU 38/A. The release rod assembly was too short and displaced the manual release bellcrack moving the rack trigger toward the release position. This allowed the pawl lock link assembly not to be in its proper position on the sear. Forces applied to the rack during prop reversal after landing could have been sufficient to fully release the rack. The rack lock assembly was not installed.

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ACCIDENT - INCIDENT SUMMARY

1 SEPTEMBER 1964 through 30 NOVEMBER 1964

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																		
Tactical Air		2										2		2				
Logistical Air																		
Rail																		
Ship																		
Motor Vehicle																		
HANDLING																		
Mechanical Equipment																		
Manual																		
OPERATIONS																		
Aircraft Loading and Downloading	1											1		1				
Aircraft Postload Check																		
Warhead Mating																		
Missile Operations	1					2						3		2	1				
ADM																		
Test and Maintenance	1							2	3			6		5	1				
Inspection		1	2					2	2			7		2	1			4	
Training																			
Storage						2						2						2	
Aircraft Alert																			
TOTAL	3	3	2	0	0	4	0	4	5	0		21		12	3	0	0	0	6	

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Accidents and Incidents During the Period 1 December 1964 thru 28 February 1965

Incident #1 (C) DASA Code 507-25

Date - 10 February 1965

1. A Mk 3 Mod 0 ASROC Rocket Thrown Torpedo (RTT) was damaged when the missile slid out of the launcher cell. The fins struck the deck; however, the torpedo remained supported in the launcher.

2. The launcher was elevated to allow mating of the rammer rail and the snubbers had been retracted. The rammer rail was mated to the launcher at which point it was discovered that the locking pin of the rammer rail operating handle was sheared.

3. The rammer rail was then disengaged from the launcher and was backed off approximately 6 inches while a replacement pin was obtained. Not realizing that the rammer rail had been disengaged from the launcher, another technician executed a subsequent step in the procedures, releasing the restraining latch of the cell to be unloaded.

4. The rocket motor fins, thrust neutralizer and airframe were damaged. There was also a separation forward of the scoop bulkhead due to stress placed on the RTT.

5. The cause of the incident was personnel error.

Incident #2 (C) DASA Code 506-124

Date - 24 November 1964

1. The pre-flight inspection window of a BDU/11E training weapon was broken during a loading exercise.

2. The weapon suspension lugs would not align with the aircraft bomb shackle. While the weapon was being lowered to the AERO-12 Bomb Skid for repositioning of the AERO-61A Hoisting Sling, the window came to rest on the chock of the bomb skid. The weapon had rotated as a result of the repositioning of the hoisting band. The additional pressure on the window caused it to break.

3. The cause of the incident was personnel error due to positioning of the weapon on the bomb skid.

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Incident #3 ~~(SFRD)~~ DASA Code 515-25

Date - 19 February 1965

1. The outer shell casing of a Mk 25 Mod 0 War Reserve Warhead mated to an AIR-2A Rocket was gouged and dented.

2. There was a dent 0.060 of an inch deep with a radius of 1-1/2 inches. An area approximately 12.5 square-inches was slightly flattened on the cylindrical outer casing at approximately the 2 o'clock position looking forward from the rear of the AIR-2A Rocket. Within this area were three small gouges, the largest being 0.8 by 0.2 of an inch.

3. Both forward rod end assemblies had been bent and broken. The door mounting brackets were broken at the connecting points for the rod end assemblies. The center selector valve assembly had experienced structural failure and the internal mechanisms of the valve had been propelled against the warhead and rocket motor.

4. The cause of the incident was material failure.

Incident #4 ~~(S)~~ DASA Code 503-25

Date - 22 January 1965

1. A pressure reading of zero was obtained on two Mk 25 Mod 0 War Reserve Warheads during the warhead pressure test.

2. The warheads were rejected, as the period since the last reading of greater than 1 psi exceeded 3 months.

3. The cause of the incident was material failure.

Incident #5 ~~(S)~~ DASA Code 504-25

Date - 28 January 1965

1. A pressure reading of zero was obtained on a Mk 25 Mod 0 War Reserve Warhead during the warhead pressure test.

2. The warhead failed the warhead criteria, as specified by Figure 5-8, page 9, of Technical Publication W25-1.

3. The cause of the incident was material failure.

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Incident #6 (~~STRD~~) DASA Code 513-25

Date - 11 February 1965

1. A Mk 25 Mod 0 War Reserve Warhead mated to an AIR-2A Rocket had a dent 2-1/2-inches long, 1/2-inch wide and 1/32-inch deep located at the 9 o'clock position, 4 inches from the forward mounting flange.

2. The dent had been discovered previously; however, the incident was not reported due to misinterpretation of the rejection criteria.

3. The cause of the incident was personnel error.

Incident #7 (~~SRD~~) DASA Code 508-124

Date - 9 December 1964

1. The reservoir and valve and neutron generators were being replaced on a Mk 28 Y1 Mod 2 War Reserve Weapon when three radial cracks were discovered on the upper left insert which is used to attach the reservoir and valve mounting plate to the component shelf.

2. The cause of the incident was material failure.

Incident #8 (~~SRD~~) DASA Code 507-124

Date - 14 December 1964

1. A pressure leak was discovered in a Mk 28 Y1 Mod 1 War Reserve Weapon following a high altitude flight.

2. The weapon had lost pressure on a preceding flight and was pressurized in accordance with Technical Publication B28-1. It failed the post-flight pressure check for the second time.

3. A leak was discovered at the rear lift lug.

4. The probable cause of the incident was material failure.

Incident #9 (~~SRD~~) DASA Code 505-124

Date - 15 December 1964

1. A pressure reading of 0.75 psig was obtained on a Mk 28 Y1 Mod 2 War Reserve Weapon following operational use.

2. The weapon had a past history of pressure leaks.

3. The weapon was rejected.

4. The probable cause of the incident was material failure.

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Incident #10 (S/RD) DASA Code 504-124

Date - 15 December 1964

1. A negative pressure reading was obtained on a Mk 28 Y1 Mod 1 War Reserve Warhead following a high altitude flight.

2. It was also discovered that the rear suspension lug insert staking notch did not line up with the staking notch in the warhead case. It was noted that the staking pin was missing after the sealant was removed.

3. The cause of the incident was material failure.

Incident #11 (S/RD) DASA Code 501-15

Date - 24 December 1964

1. While performing maintenance on a Mk 28 Y3 Mod 2 War Reserve Warhead, it was noted that the warhead would not hold pressure.

2. A 24-hour pressure test was performed in accordance with paragraph 9-6 of Technical Publication B28-1. All preformed packing was replaced; however, the repair was not successful. The warhead was rejected.

3. The probable cause of the incident was material failure.

Incident #12 (S/RD) DASA Code 510-124

Date - 23 December 1964

23

1. A Mk 28 Y3 Mod 3 War Reserve Weapon was being unloaded from an F-100D Aircraft when the AERO-14C Hoist Swivel Clevis broke allowing the H-532B Bolster and weapon to fall.

2. The weapon was clear of the pylon when the swivel clevis on the outboard AERO-14C Hoist broke. The inboard AERO-14C Hoist held momentarily until the excess stress on the cable caused it to break. The momentary support afforded by the inboard hoist caused the bolster and weapon to swing inward. The parting of the inboard hoist cable caused the weapon to fall on its tail with the bolster up.

3. The Connector, Receptacle, Breakaway, Plug SA-731 P/N 352367-00 was crushed. The MC-924 fin was bent. The F28-4 Fuze showed evidence of structural damage. There was also evidence of overstress around the coupling ring of the warhead. The Retarded Shape Component (RESC) 28-0 also showed evidence of overstress.

4. The probable cause of the incident was material failure.

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Incident #13 (~~SRD~~) DASA Code 507-15

Date - 11 January 1965

1. A Mk 28 Y3 Mod 1 War Reserve Weapon was undergoing conversion from External (EX) to Retarded External (RE) when it failed the electrical monitor test.

2. The electrical monitor test was being performed as specified in table III and figure 6-13 of Technical Publication B28-1 when the DS1 and DS2 Lamps of the T-304C Multiple Purpose Continuity Tester failed to light.

3. It was ascertained that the T-304C Cables were functional. The weapon was rejected.

4. The weapon had been loaded on aircraft 16 times during alert exercises prior to the incident. The weapon had been converted from RE to EX on 24 November 1964 and had remained in storage until the day of the incident. There were no malfunctions of the weapon prior to the date of the incident.

5. The probable cause of the incident was material failure.

Incident #14 (~~SRD~~) DASA Code 504-15

Date - 30 December 1964

1. One Mk 28 Y1 Mod 2 War Reserve Weapon and one Mk 28 Y1 Mod 1 War Reserve Warhead had a pressure reading of zero psig during the pressure check test.

2. Both weapons had previously failed pressure tests on 30 November 1964. Pressure readings at that time were 0, 25 psig.

3. The probable cause of the incident was material failure due to pressure leaks around the rear lift legs.

Incident #15 (~~SRD~~) DASA Code 501-25

Date - 25 January 1965

1. A reservoir and valve change was being performed on a Mk 28 Y1 Mod 2 War Reserve Weapon when a crack 3-inches long was discovered in the component shelf behind the lower mounting bracket.

2. The probable cause of the incident was material failure.

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Incident #16 (~~SRD~~) DASA Code 502-25

Date - 25 January 1965

1. A reservoir and valve and neutron generator change was being performed on a Mk 28 Mod 2 War Reserve Weapon when a rosan insert was found to be cross-threaded.

2. The probable cause of the incident was material failure.

Incident #17 (~~SRD~~) DASA Code 505-25

Date - 27 January 1965

1. A reservoir and valve change was being performed on a Mk 28 Y1 Mod 2 War Reserve Weapon when radial cracks were discovered around three inserts of the component shelf.

2. The warhead was rejected.

3. The probable cause of the incident was material failure.

Incident #18 (~~SRD~~) DASA Code 514-25

Date - 25 February 1965

1. The reservoir and valve and neutron generators of a Mk 28 Y1 Mod 1 War Reserve Warhead were being replaced when it was observed that the red W-2 Cable leading from the holder, electrical contact P/N 141687-00 was slightly crushed.

2. The cause of the incident was material failure.

Incident #19 (~~SRD~~) DASA Code 509-25

Date - 10 February 1965

1. The pressure readings of two Mk 28 Y3 Mod 3 War Reserve Warheads was below acceptable limits during the warhead pressure check.

2. Maintenance on the warheads was being performed in accordance with Technical Publication B28-1.

3. The warheads were rejected.

4. The cause of the incident was material failure.

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Incident #20 (S) DASA Code 502-15

Date - 8 January 1965

1. A Mk 34 Mod 2 War Reserve Warhead installed in a Mk 101 Depth Bomb failed the electrical monitor test.

2. The warhead was removed from the bomb prior to performing W34-504, at which time the warhead was monitored in accordance with paragraph 5-3.4 of Technical Publication W34-1. The DS3 Lamp indicated the MC-725 Safing Switch in the "ARMED" position.

3. The high voltage thermal battery was removed and the warhead rejected.

4. The cause of the incident was unknown.

Incident #21 (~~SRD~~) DASA Code 505-15

Date - 14 January 1965

1. A Mk 43 Y1 Mod 1 War Reserve Weapon loaded aboard an A4E Aircraft was damaged when the aircraft was launched from a C-11 Mod 1 Waist Cat during an Operational Readiness Maneuver.

2. The post flight inspection of the weapon by the pilot and shore base personnel revealed no noticeable discrepancies. However, during the post maneuver inspection, structural damage was found on the bottom of the forward fuze section. The lower fuze section was dented over the rear internal stiffener ring. Some of the rivets were abraded or pulled and the stiffener ring was out of round by 1/16-inch over a 1-1/2 square-inch area.

3. The probable cause of the incident was due to the bridle slap during the catapult launch.

Incident #22 (~~SRD~~) DASA Code 508-15

Date - 27 January 1965

1. During disassembly of a Mk 43 Y2 Mod 1 War Reserve Weapon to replace the MC-1821 Connector Assembly Breakaway Pulse, it was noted that Pin D of the MC-991 Firing Set was bent. There was also a hole in the insulation adjacent to the pinhole for Pin D in Connector P-5 of the MC-993 Fuze Switch Pack.

2. The damage was noted when P-5 of the MC-993 Fuze Switch Pack was disconnected from J-5 of the MC-991.

3. The probable cause of the incident was personnel error as the Assembly P-5 connector was not properly aligned when connected to J-7 of the MC-991.

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Incident #23 ~~(OFRD)~~ DASA Code 509-124

Date - 14 December 1964

1. During an annual Technical Proficiency Inspection and while performing a loading ex with a Mk 2 Mod 0 ASROC Rocket Thrown Depth Charge (RTDC) with a Mk 44 Mod 0 installed, i was observed that the snubbers in cell six would not retract fully during the pre-unload procedu

2. Unloading operations were then shifted to cell five. The unloading was completed wi no difficulties.

3. A launcher safety test power "ON" for cell five was conducted, readying the cell for loading. The missile was loaded with no difficulties. The next step in the loading procedures a contained in NAVWEPS OP 2983 (Ch-1) specifies that the snubbers of both cells five and six mus be retracted in preparation for the launcher safety test power "OFF". The snubbers of cell six would not retract fully.

4. The power "OFF" test was run on cell five and the missile was connected to the launc connection box using the Mk 10 Umbilical Cable. NAVWEPS OP 2983 calls for the launcher safe test power "OFF" be run on the other cell of the guide; in this case, cell six. Missile Evaluatio Systems Test (MEST) set Mk 363 Mod 1 was plugged into cell six for this purpose. The launche safety test power "OFF" requires that the snubbers be retracted in the cell tested. Cell six snubbers malfunctioned, thereby invalidating the test. The missile "Not Latched Light" (DS135) came on and the snubbers "Latched Light" (DS133) went out on the Launch Command Control Pan (LCCP) Mk 199. The snubbers "Released Light" (DS131) did not come on, indicating that the snubbers were not fully retracted. The launcher safety-test power "OFF" was continued and the missile was connected to the launcher connection box. The Mk 10 cable was then connected, whi is contrary to NAVWEPS OP 2983 and constitutes a safety violation. Operations were terminate and the discrepancy in the snubbers of cell six were corrected.

5. There was no damage to the Mk 2 Mod 0 RTDC. After the missile was connected and the snubbers functioned properly, all components of the RTDC were found to be in good working order.

6. The probable cause of the incident was material failure.

Incident #24 ~~(C)~~ DASA Code 516-25

Date - 13 February 1965

1. A Mk 45 torpedo with a Training Warhead had minor scratches on the paint which occu as it was being unloaded during an exercise.

2. When the skid was hoisted to the unloading position, the nose shell came in contact wi a closed access hatch. When it was discovered that the loading skid was binding, the operation w stopped and the skid was lowered.

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3. The safety tail line was not slacked as the skid was lowered, and the dollies (to which the securing straps are attached) were in the unlocked position. As a result, the torpedo was suspended by the tail, with the torpedo nose shell resting on the closed access hatch.

4. The cause of the incident was personnel error, as the personnel involved failed to verify that the access plate was open to allow proper clearance when raising the skid to the loading position.

Accident #1 ~~(SRD)~~ DASA Code 502-124

Date - 8 December 1964

1. During an alert exercise, a B-58 Aircraf (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) caught fire and burned, resulting in extensive damage to the weapons. DTRA b3

2. The pilot lost control of the aircraft when the jet blast from a preceding aircraft struck the B-58, causing it to slide sideways on the slippery runway. The landing gears collapsed when the aircraft slid off the runway pavement and the aircraft became engulfed in flames.

3 (b)(3):42 USC 2162(a)
(b)(3):42 USC 2162(a) DTRA b3
(b)(3):42 USC 2162(a)
(b)(3):42 USC 2162(a)

4 (b)(3):42 USC 2162(a) DTRA b3
(b)(3):42 USC 2162(a)

5 (b)(3):42 USC 2162(a) DTRA b3
(b)(3):42 USC 2162(

6 (b)(3):42 USC 2162(a) DTRA b3
(b)(3):42 USC 2162(a)

7. EOD personnel monitoring with the T-290 received negative readings.

8. The exact cause of the accident was unknown; however, it may have been due to the jet blast of a preceding aircraft striking the B-58 while it was taxiing and caused it to slide on the slippery runway and off the runway pavement.

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Incident #25 ~~(S)~~ DASA Code 511-25

Date - 5-10 February 1965

1. During a storage inspection of a Mk 54 Mod 0 War Reserve Warhead, a crack was discovered in the fiberglass cover of the fire set.

2. The crack was located at the interior 90 degree corner adjacent to the connector. The crack was not a compression type fracture but appeared to be crazed, varying in depth, thickness and pattern.

3. The probable cause of the incident was material failure.

Incident #26 ~~(S)~~ DASA Code 510-25

Date - 5-10 February 1965

1. During a storage inspection of a Mk 54 Mod 0 War Reserve Warhead, two dents were discovered in the cylindrical portion of the warhead.

2. The exact depth of the dents could not be measured, since a micrometer with a point fine enough to measure the depth was not available.

3. The probable cause of the incident was personnel error.

Incident #27 ~~(SFRD)~~ DASA Code 512-25

Date - 5-12 February 1965

1. During a storage inspection of five Mk 54 Mod 0 War Reserve Warheads, it was discovered that the seal joining the fire set and warhead had separated.

2. The seal separation between the fire set and the warhead was approximately 1/4 to 1/2 inch long and of undetermined depth.

3. The record card of one warhead indicated that it previously had been rejected for a seal separation. Repair apparently had been performed at that time, as there was a patch of different colored rubber-type substance on the seal in the area of the separation.

4. The probable cause of the incident was material failure due to the adhesive failing to bond the seal to the warhead and fire set.

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Accident #2 (~~SRD~~) DASA Code 501-124

Date - 5 December 1964

1. An LGM-30B Minuteman Missile, Mk 11 Mod 3 Re-Entry Vehicle (R/V), with a Mk 56 Mod 3 War Reserve Warhead installed, was damaged when the R/V toppled from atop the missile and fell to the bottom of the launch tube.

2. A checkout of the security system was being performed after a reported malfunction. The fuze F-1 in the DC-to-DC converter was removed to permit a resistance/continuity check of the mechanical security switches to eliminate that portion of the monitor circuit. When the fuze F-1 was reinstalled, an explosion was heard in the launch tube.

3. The R/V separated from the spacer leaving a portion of the body section and the complete rear cover attached to the spacer. The remaining portion of the R/V fell to the bottom of the launch tube.

4. The weapon did not detonate nor was it involved in fire.

5. Damage to the missile included two superficial scratches not more than 1/64-inch deep. A guidance and control package was severely damaged by hot gases and pressure from the retro-firing. The warhead had various perforations and mechanical disarrangements. The R/V was heavily damaged.

6. The investigation revealed that one retro-rocket in the third stage of the missile had fired. A faulty DC-to-DC converter or security system breakdown may have caused a stray voltage to appear between the signal wire shielding and ground throughout the launcher. The stray voltage apparently caused the retro-rocket to fire.

Incident #28 (~~SRD~~) DASA Code 508-25

Date - 16 February 1965

1. A Mk 57 Mod 0 Warhead Reserve Weapon was being moved to the top position of a three high stack (aboard ship) when the swaged fitting attached to the hoisting cable of the Mk 8 Mod 0 Bomb Hoist parted. The swaged fitting parted at the lower extremity of the sleeve causing the weapon and attached H-841 to drop approximately 2-inches and come to rest on the center Mk 57 Weapon.

2. The MC-1413 fin of one weapon had four dents approximately 1/16-inch or less in depth. The fin was replaced and the weapon returned to operational use. The other weapon was undamaged.

3. The cause of the incident was material failure.

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Incident #29 (S/RD) DASA Code 506-15

Date - 6 January 1965

1. A Mk 2 Mod 0 Rocket Thrown Depth Charge (RTDC) in a Mk 183 container was dropped while being positioned in the magazine storage rack.

2. A link in the chain of the Air Hoist Model 562 broke and the weapon was dropped approximately 1.5 inches. A visual inspection revealed possible crystallization of the steel link.

3. There was no apparent damage to either the weapon or container.

4. A T-290 test was negative.

5. The cause of the incident was material failure.

Incident #30 (S) DASA Code 506-25

Date - 3 November 1964

1. A Mk 102 Training Shape was being unloaded from an S-2D Aircraft when the Mk 8 Hoist Cable parted. The weapon dropped onto the dolly which was on the deck. There was no damage to the weapon.

2. An inspection revealed that several strands of the cable had been severed by a sharp edge of the Mk 51 Bomb Rack as the weapon was lowered.

3. Improper seating of the Mk 8 Bomb Hoist in the bomb rack permitted the cable to drag on the sharp edge of the bomb rack.

4. The cause of the incident was personnel error in positioning the Mk 8 Bomb Hoist to the bomb rack.

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ACCIDENT - INCIDENT SUMMARY

TYPE OF ACTIVITY	CAUSE													TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other					Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components		None
TRANSPORTATION																					
Tactical Air																					
Logistical Air																					
Rail																					
Ship																					
Motor Vehicle																					
HANDLING																					
Mechanical Equipment																					
Manual																					
OPERATIONS																					
Aircraft Loading and Downloading	2								2						3						1
Aircraft Postload Check																					
Warhead Mating																					
Missile Operations	1		1												1						1
ADM																					
Test and Maintenance	1							1	15						7	2					8
Inspection									3						2						2
Training	2									1					1						1
Storage									2						1						1
Aircraft Alert										1							1				
TOTAL	6		1					1	22	2				32	16	2	1				14

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Accidents and Incidents During the Period 1 March 1965 through 21 May 1965

Incident #1 ~~(CFRD)~~ DASA Code 502-35

Date - 8 March 1965

1. While removing the thrust neutralizer of a Mk 2 Mod 0 ASROC Rocket Thrown Depth Charge, the nozzle plate on the rocket motor rotated.

2. The probable cause of the incident was material failure as the securing pin of the noz plate restraining spring was suspected of being loose or sheared.

Incident #2 ~~(C)~~ DASA Code 505-35

Date - 11 March 1965

1. During a training exercise with a Mk 2 Mod 0 ASROC Training Rocket Thrown Depth Charge and while installing the thrust neutralizer prior to magazine unloading, the rocket nozzle plate began turning when 30 pounds of torque was applied.

2. The probable cause of the incident was due to shearing of the nozzle plate pin.

Incident #3 ~~(U)~~ DASA Code 506-35

Date - 19 February 1965

1. During a loading drill with a Mk 7 Training Weapon following the "Strike" loading port of NAVWEPS Check Sheet 01-40AVA-17, an improper indication occurred on step 5 of page 45.

2. When the Operational Selector was moved to the "PRE DROP" position, the IFI "IN" lamp came on and the ARM/SAFE lamp came on. The weapon was de-armed. The control box, T-208B, was changed and all procedures were repeated. No improper indications were observed The control box was inspected and all modifications were marked as being incorporated. Howeve when the control box was disassembled an error in the incorporation of Armament Material Chan 319A was discovered. Page 2, steps 7 and 8 of AMC-319A had not been incorporated in the contr box.

3. The probable cause of the incident was due to personnel error.

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Incident #4 (~~SRD~~) DASA Code 501-45

Date - 29 March 1965

1. A storage inspection was being performed on a Mk 7 Mod 9 War Reserve Weapon when it was discovered that (b)(3):42 USC 2162(a) adapters were cracked. The cracks extended from the detonator adapter pins (inner) to the outer edge of the detonator adapters.

2. The cause of the incident was undetermined.

Incident #5 ~~(GFRD)~~ DASA Code 501-55

Date - Unknown

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

2. The missile magazine was sprinkled when a person attempted to relieve the pressure in the Heat Activating Device and Fixed Temperature Unit System. While attempting to reset the Pneumatic Release Pilot Valve, the chain connected to the key apparently snagged giving the illusion that the valve was reset. As there was no test casting inserted in the sprinkler valve, the valve opened and sprinkling commenced.

3. Warheads associated with Mk 22 Mod 0 Warhead Sections were considered operational by the design agency.

4. The cause of the incident was personnel error.

Incident #6 (~~S~~) DASA Code 508-55

Date - 5 May 1965

1. An H-490A Warhead Container with a Mk 25 Mod 1 War Reserve Warhead installed was damaged when the forklift transporting the warhead container struck a 1/2-ton pick-up truck.

2. The forklift had traveled a distance of approximately 48 feet from the assembly building door when it struck the pick-up truck. There was a second man on the right hand side of the fork-lift, the area was illuminated by one 150-watt overhead light, the forklift lights were on and the forklift was traveling approximately 3 miles per hour when the accident occurred.

3. The bottom section of the H-490A had a dent 2 1/2-inches deep and 16-inches long, centered 7-inches from the bottom of the container. A visual inspection of the warhead revealed no apparent damage.

4. The probable cause of the incident was personnel error and weather conditions as the operator's eyes may not have become adjusted to the darkness upon leaving a lighted maintenance bay and the fact that the weather condition was windy with gusts to 30 knots, causing blowing sand and dust.

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Incident #7 (S/RD) DASA Code 502-55

Date - 28 April 1965

1. A reacceptance inspection was being performed on two Mk 28 Y4 Mod 1 and one Mk 2 Y3 Mod 4 War Reserve Warheads when it was discovered that the rear lug inserts were loose.

2. A complete inspection of the stockpile revealed two additional loose inserts. The ins of the two Y4 Warheads were loose to a degree where some movement from the horizontal plane could be detected. The insert of the Y3 Warhead was loose to a degree that a small circular mo ment was detected.

3. The cause of the incident was unknown.

Incident #8 (S/RD) DASA Code 504-35

Date - 8 March 1965

1. Two radial cracks were discovered around the upper left insert which is used to attac the reservoir and valve assembly mounting plate to the component shelf of a Mk 28 Y1 Mod 1 Wa Reserve Warhead. One crack extended 1-1/8 inches. An adjoining crack was 3/16 of an inch in length.

2. The cracks were discovered during a reservoir and valve change. The depth of the cracks could not be determined.

3. The probable cause of the incident was material failure.

Incident #9 (S/RD) DASA Code 504-45

Date - 5 April 1965

1. A Mk 28 Y2 Mod 2 War Reserve Warhead failed the Warhead Pressure Test during storage monitor.

2. On 5 February 1965, a pressure check was being performed when a reading of 1.75 ps was obtained. The warhead was pressurized and a 24-hour pressure test was started on 8 Febru 1965. The warhead failed the test. The warhead was then repaired in accordance with procedur contained in paragraph 9-4A.5.2 through 9-4A.5.2.3 of Technical Publication 11N-B28-1. The warhead was pressurized again on 15 February 1965 at which time it passed the 24-hour test whil stored in a controlled structure with a temperature of 72° Fahrenheit.

3. Another pressure check was performed on 23 February 1965 after one week of sto age in an uncontrolled structure with a temperature of 35° Fahrenheit at which time a reading of 8.50 psig was obtained.

4. The warhead was pressurized on 25 February 1965 and again it failed the pressure tes Further repair was made in accordance with paragraph 9-4A.5.2.4 through 9-4A.5.2.5 of Technical Publication 11N-B28-1.

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5. When the repair referred to in paragraph 4 above was completed on 4 April 1965, the warhead was pressurized and failed the pressure test for the fourth time.

6. The probable cause of the incident was material failure.

Incident #10 (~~SRD~~) DASA Code 511-45

Date - 29 April 1965

1. The MC-934 Cover, pressure port of a Mk 28 Y3 Mod 1 External War Reserve Weapon was cracked when it came in contact with a stanchion in the storage magazine as it was being moved on a H-502 Bomb Dolly.

2. The probable cause of the incident was personnel error.

Incident #11 (~~SRD~~) DASA Code 503-55

Date - 29 April 1965

1. The bottom center and top center holes of the MC-1100 X-unit of a Mk 28 Y2 Mod 2 War Reserve Weapon which are used for mounting the side MC-890 Neutron Generator were discovered out of alignment.

2. Procedures were being performed to remove the MC-890 to permit installation of the MC-1649 Neutron Generator when it was discovered that the holes in the MC-1100 were out of alignment. The MC-1649 could not be installed on the side mounting because the bottom center hole was lower than the other two bottom holes and the top center hole was higher than the other two top holes.

3. The cause of the incident was considered to be a manufacturing defect of the MC-1100.

Incident #12 (~~SRD~~) DASA Code 510-45

Date - 15 April 1965

1. Following a high altitude flight a pressure reading of zero was obtained on a Mk 28 Y1 Mod 2 War Reserve Warhead. This was the second time within a 9-month period that a pressure reading of less than 1 psig was obtained on the above-mentioned warhead.

2. The first time that a negative pressure reading was obtained was following operational use on a previous alert indoctrination mission. At that time, the warhead was repaired, pressurized and it passed the 24-hour pressure test.

3. No further maintenance was performed until 13 April 1965 when a pressure reading of 8.25 psig was obtained. The warhead was then pressurized to 13.5 psig and employed on a high altitude flight.

4. The probable cause of the incident was material failure.

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Incident #13 (SRD) DASA Code 503-45

Date - 5 April 1965

1. During disassembly of a Mk 43 Y2 Mod 0 War Reserve Warhead to perform Retrofit Order B43-506, it was discovered that Pin H of the J1 Connector of the CF-1450 Cable was bent causing it to penetrate the insulation between Pinholes "S," "T," and "J" on P3 of the MC-993 Fuze Switch Pack.

2. The probable cause of the incident was personnel error due to improper mating of the P1 Connector of the MC-993 to the J3 Connector of the MC-988 Connector Assembly, Breakaway Pulse during a previous assembly.

Incident #14 (SRD) DASA Code 507-35

Date - 24 March 1965

1. While a Mk 43 Y2 Mod 0 War Reserve Warhead was being disassembled to perform Retrofit Order B43-506, it was noted that Pin E of the MC-988, Connector Assembly, Breakaway Pulse was bent.

2. The bent pin was discovered when P1 of the MC-993 Fuze Switch Pack was disconnecte from J3 of the MC-988.

3. The probable cause of the incident was personnel error as the P1 Connector was not properly mated to the J3 Connector during a previous assembly.

Incident #15 (SRD) DASA Code 511-55

Date - 26 May 1965

1. During removal of the nose to perform Retrofit Order B43-506 on a Mk 43 Y2 Mod 0 W Reserve Warhead, the MC-1533 Spike Cable was found crushed in two places.

2. The crushed portions of the cable were located approximately four and seven inches fr the P2 and P3 Connectors.

3. The probable cause of the incident was personnel error during previous installation of the nose.

Incident #16 (C) DASA Code 502-45

Date - 29 March 1965

1. The Mk 10 Cable Extractor Plug jammed against the forward edge of the lower after snubber assembly as a Mk 2 Mod 0 Rocket Thrown Depth Charge with a Mk 44 Mod 0 Warhead installed was being unloaded from the launcher during a Technical Proficiency Inspection.

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2. The Mk 10 Cable pulled loose from the missile cracking the weapon cable receptacle plug in three places.

3. The probable cause of the incident was due to insufficient clearance between the extractor plug and the snubber assembly.

Incident #17 ~~(CNRD)~~ DASA Code 504-55

Date - 19 May 1965

1. A Mk 2 Mod 0, ASROC Training Weapon with a Mk 44 Training Warhead installed was in its Mk 183 Container and was being lowered into the storage magazine when the hoist stopped suspending the weapon approximately 12 feet above the deck.

2. Another attempt was made to lower the weapon after cross beams were installed below the Mk 183 Container; however, the hoist locked again. The weapon was then hoisted to the workshop level. The weapon was neither damaged nor subjected to any measurable amount of shock.

3. The cause of the incident was due to the load chain jamming between the wildcat and body or guide of the hoist. It was suspected that the chain became twisted prior to entering the wildcat.

Incident #18 ~~(S)~~ DASA Code 501-35

Date - 3 March 1965

1. A Mk 45 Mod 0 War Reserve Warhead was dented when it slipped off the padded chock as it was being lowered with an H-816 Sling. The "A" end of the warhead struck the concrete deck.

2. The dent was approximately 3-inches long by 0.218 of an inch deep and located on the curved portion of the case cover. The dent was not within critical areas as shown in table IV of Technical Publication W45-1. It was believed that the damage was confined to the case cover.

3. The probable cause of the incident was personnel error.

Incident #19 ~~(SRD)~~ DASA Code 503-35

Date - 6 March 1965

1. Salt water was found in all areas of missile launch tube No. 5 during an Operational Readiness Exercise. A Polaris A-2 Missile with a Mk 47 Y2 Mod 2 War Reserve Warhead was installed in the missile tube.

2. A visual inspection of the missile revealed that approximately 12 gallons of water was in the missile equipment and interstage sections.

3. The guidance capsule and re-entry body was exposed to salt water. The first stage propulsion motor was immersed.

4. The cause of the incident was unknown.

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Incident #20 (S/RD) DASA Code 510-55

Date - 18 May 1965

1. An H-3266 Container with a Mk 1 Mod 0 Polaris Re-Entry Body installed was damaged as it was being transported into the storage magazine by forklift.

2. As the container was not secured to the forklift, the container rolled over on its side when the container base support structure caught on the door of the magazine. One longitudinal base support structure was bent, one stocking weldment was sheared loose, there was also mino superficial damage to the container. Inspection of the Mk 47 Mod 2 War Reserve Warhead revea no visible damage. No part of the container came in contact with the warhead.

3. A T-290 test was negative.

4. Three pressure readings of the warhead taken at approximately 1-hour intervals after the incident indicated no significant change in warhead pressure.

5. The cause of the incident was personnel error.

Incident #21 (S) DASA Code 509-45

Date - 7 April 1965

1. While performing a receipt inspection of a Mk 1 Mod 1 Polaris Re-Entry System, oxid deposits were found on 15 flare-to-extension ring mating bolts.

2. Oxidation covered the circumference of the extension ring to the equipment section joi A black substance was exuding from the flare to the warhead joint.

3. The remaining components showed no signs of oxidation.

4. The probable cause of the incident was due to the weapon being subjected to water or moisture at some undetermined time.

Incident #22 (S/RD) DASA Code 505-55

Date - 3 May 1965

1. During the loading of a Mk 53 Y1 Mod 0 War Reserve Weapon aboard a B52E Aircraft it was discovered that the window of the MC-1178 Sequential Timer was cracked.

2. The weapon was removed to a maintenance bay where it was inspected. The inspectio revealed that a particle of glass could have fallen inside of the MC-1178, thereby degrading the reliability of the weapon.

3. The probable cause of the incident was unknown; however, it may have been caused by vibration, temperature differential, pressure differential, or shock wave.

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Incident #23 (S/RD) DASA Code 509-55

Date - 11 May 1965

1. While performing an initial inspection of a Mk 53 Y1 Mod 0 War Reserve Weapon it was discovered that the window of the MC-1178 Sequential Timer, was cracked and chipped.

2. The inspection revealed that a particle of glass could have fallen inside of the MC-1178, thereby degrading the reliability of the weapon.

3. The cause of the incident was unknown.

Incidents #24 - 27 (S) DASA Codes 505-45 thru 508-45

Dates - 5 - 8 April 1965

1. There were four incidents involving Mk 56 Mod 1 War Reserve Warheads. During visual inspection of the warheads, metallic flaws were found in each of the four warhead cases.

2. One warhead had a flaw approximately 0.020 of an inch in depth and diameter on the outer surface of the warhead ball located 30 degrees clockwise from the zero reference line at station 10.2. The second warhead had a flaw approximately 0.015 of an inch located 10 degrees clockwise of the zero reference line at station 10.2. The third warhead had a flaw approximately 0.008 of an inch deep and 0.004 of an inch wide in the warhead case 180 degrees from the zero reference line at station 10.5. The fourth warhead had a flaw 0.024 of an inch deep and 0.005 of an inch wide located 180 degrees from the zero reference line at station 10.2.

3. Each of the flaws in the four warhead cases exceeded the criteria specified in figure 4-3 of Technical Publication 11N-W56-1.

4. The probable cause of the incidents was due to a manufacturing defect.

Incident # 28 (S) DASA Code 507-55

Date - 3 May 1965

1. (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) (b)(3):42 USC 2162(a) The nose of the bottom row was positioned aft.

DOE, b(3)

2. The elevator was traveling from the "M" shop to the storage position. Immediately prior to arriving at the storage position, the MC-1413 Fin became wedged under the forward port lifting cable wheel. The fin was bent approximately 60° covering a length of about 3 inches. The shear joint of the MC-1415 Rear Bomb Subassembly was separated about 3/32 of an inch in the top quadrant.

3. The cause of the incident was personnel error due to improper positioning of the cradle on the bomb elevator.

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Incident #29 (S/RD) DASA Code 506-55

Date - 16 April 1965

1. The EYE LUG of the MC-982 Pull Switch of a Mk 57 Mod 1 Weapon was missing when the weapon was returned aboard ship during a Readiness Maneuver.

2. The weapon had been loaded aboard an A-1H Aircraft and maneuvered to a shore facili where it was unloaded. The weapon was returned to the ship by barge. Upon receipt at the ship was noted that the EYE LUG was missing. The MC-982 with the wire rope assembly attached wa found in the H-990A Canvas Bag. There was no other apparent damage to the weapon.

3. The cause of the incident was unknown.

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ACCIDENT - INCIDENT SUMMARY

1 MARCH through 31 MAY 1965

TYPE OF ACTIVITY	CAUSE												TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other	TOTAL		Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None	
TRANSPORTATION																			
Tactical Air																			
Logistical Air																			
Rail																			
Ship																			
Motor Vehicle																			
HANDLING																			
Mechanical Equipment	3									1	4		2					2	
Manual	1										1		1						
OPERATIONS																			
Aircraft Loading and Downloading	1							1			2		1					1	
Aircraft Postload Check								1			1		1						
Warhead Mating																			
Missile Operations	1							1	1		3							3	
ADM																			
Test and Maintenance	3		1						3		7		4					3	
Inspection								3		5	8		6					2	
Training	1									1	2							2	
Storage									1		1		1						
Aircraft Alert																			
TOTAL	10		1					6	5	7	29		16					13	

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Accidents and Incidents During the Period 1 June 1965 through 31 August 1965

Incidents #1-2-3-4 (S RD) DASA Code 501-75
508-75
Date - 6 July 1965 511-85
505-85

1. There were four cracks around the lower left insert used to attach the reservoir and valve mounting plate to the component shelf of a Mk 28 Y1 Mod 2 War Reserve Warhead.

2. One crack was located approximately 5/8-inch into the component shelf plastic mater: The number of cracks and the length of the one crack required rejection of the warhe d.

3. The probable cause of the incident was overtightening of the screw into the insert duri manufacture.

4. Three other incidents similar to the above occurred on 15 July 1965, 27 August 1965, and on an undetermined day in August 1965 respectively.

Incident #5 (S RD) DASA Code 509-85

Date - 11 August 1965

1. A Mk 43 Y5 Mod 0 War Reserve Basic Assembly was being disassembled to replace a defective MC-1057 Switch, pressure, temperature sensitive, when the P6 Connector of the MC-9 Switch Pack was cracked.

2. The pressure bulkhead was being removed. After the bulkhead seal was broken, the bulkhead was being withdrawn further to determine if the fire set was adhering to it prior to brea the P6 Connector Seal.

3. After the bulkhead had been pulled out approximately two inches, the fact that the P6 Connector Seal had not been broken was noticed. The resulting tension of the P6 Connector caus it to crack.

4. The cause of the incident was personnel error.

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Incidents #6-7 (S~~RD~~) DASA Code 509-75
504-75

Date - 19 July 1965

1. While performing Retrofit Order 11N-B43-506 on a Mk 43 Y2 Mod 0 War Reserve Basic Assembly the insert near pin receptacle (M) of the MC-993 Switch Pack was found punctured.

2. Pin (M) of J3 of the MC-988 Connector Assembly, breakaway pulse was also bent.

3. The damage was discovered following disconnect of P1 of the MC-993 from J3 of the MC-988.

4. The cause of the incident was unknown.

5. Another incident similar to the above occurred on 6 July 1965.

Incident #8 (S~~RD~~) DASA Code 511-75

Date - 28 July 1965

1. During loading of a Mk 53 Y1 Mod 9 War Reserve Weapon aboard a B-52 Aircraft the MC-1199 Electrical System Safety Switch could not be moved from the safe position when power was applied to the unit.

2. The CF-1558 Cable began to get warm so power was removed from the weapon and a new CF-1558 Cable was installed. The same problem existed. The weapon was then unloaded and a new weapon loaded. An electrical monitor was performed and correct indications received. The apparently defective weapon was rejected.

3. The probable cause of the incident may have resulted from a defective CF-1556 Cable, MC-1199 or MC-1203 Interconnecting Box.

Incident #9 (S~~RD~~) DASA Code 510-75

Date - 27 July 1965

1. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

DOE b(3)

2. (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a) The MC-1416 Parachute Bomb Retarding the MC-1414 Bomb Subassembly, and nose section were dry indicating no internal leakage.

3. The magazine group valve seal carrying a fire main pressure of 110 psi failed after completion of the magazine sprinkler test allowing water to pass to the dry side of the sprinkler system thereby partially flooding the magazine before the system could be shut off.

4. The cause of the incident was material failure.

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Incident #10 (SRD) DASA Code 506-85

Date - 17 August 1965

1. Maintenance was being performed on a Mk 28 Y2 Mod 2 War Reserve Warhead when th left rear fairing cable bolt, part number 805388-00, broke.

2. The probable cause of the incident was a distorted helicoil insert.

Incident #11 (SRD) DASA Code 508-85

Date - 8 August 1965

1. Retrofit Order 11N-B43-506 was being performed on a Mk 43 Y2 Mod 1 War Reserve Weapon when an inspection was made of the male and female connectors of the P1 Cable of the MC-993 Switch Pack. As the inspection was being made the receptacle was found to be punctured in three areas, adjacent to the receptacles for Pins L, K, and c.

2. Pins L and K may have shorted out through the metal casing. Examination of Pins L, and c revealed that they were bent out of line.

3. The Inspection Record Card indicated that the Basic Assembly had not been disassembl since original assembly.

4. The cause of the incident was unknown.

Incident #12 (S) DASA Code 507-85

Date - 23 August 1965

1. An electrical monitor was being performed on a Mk 53 Mod 0 War Reserve Weapon following operational use when the DS-2 Lamp of the T-304C Multiple Continuity Tester failed to light.

2. The weapon was rejected.

3. The cause of the incident was unknown.

Incident #13 (S) DASA Code 502-65

Date - 10 June 1965

1. A B-52E Aircraft loaded with two Mk 53 Mod 0 War Reserve Weapons and two Mk 28 M(1 War Reserve Warheads installed in AGM Missiles was struck by lightning.

2. A T-304 Multiple Purpose Continuity Tester was used to test the continuity of the weapo circuit. All cables were checked for evidence of burning or arcing. All cables and pins appeared good condition. These tests were satisfactory. A visual inspection of the weapons revealed no apparent damage.

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3. Lightning struck the aircraft vertical fin at the high frequency antenna approximately three feet from the top. On the left side a hole approximately 1-inch in diameter was burned through the sheet metal. A tear approximately 2-inches long was found in the fiber glass on the right side. Electricity surged into the external power cart, burning two wires to the aircraft amperage indicator. A burn approximately 2-inches long was found in the 60-foot power cable. The aircraft grounding cable had also burned, but was still intact.

4. The cause of the incident was a lightning strike.

Incidents #14-15 (S) DASA Code 505-75
506-75

Date - 6 July 1965

1. The MC-1040 Explosive Bolt Cable of a Mk 43 Mod 0 Basic Assembly (BA) was found crushed when the nose assembly was removed from the BA during Mod 1 modification.

2. The incident evidently occurred during a previous assembly operation when cable was pinched between the warhead and the MC-909 Switch, pressure, installed on the N43 Mod 0 Nose assembly.

3. The cause of the incident was personnel error.

4. Another incident similar to the above occurred on 7 July 1965.

Incident #16 (S) DASA Code 506-75

Date - 30 August 1965

1. A pressure test was being performed on a Mk 43 Mod 1 War Reserve Weapon when a leak was found where the cable enters the base of the MC-1533.

2. The cause of the incident was material failure.

Incident #17 (~~SRD~~) DASA Code 507-75

Date - 15 July 1965

1. Lightning struck a missile complex where MGM-13A MACE Missiles were installed. War Reserve Mk 28 Y3 Mod 3 Warheads were mated to the missiles.

2. An investigation of the 4 launch pads revealed that squibs were blown on all of the missiles on the launch pad connected to lines 21, 22, 23, and 24.

3. Line 21 had the squibs blown on the warhead enable cable; both squibs were blown on the nose temperature control unit duct; both squibs were also blown on each hydraulic pressure line and hydraulic return line.

4. Line 22 had one squib blown on the rapid fire test umbilical cable.

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5. Line 23 had one squib blown on the rapid fire test umbilical cable and two squibs blown the warhead enable cable.

6. Line 24 had one squib blown on the rapid fire test umbilical cable and two squibs blown the hydraulic return line.

7. The squibs were replaced on all missiles and RFT's were performed. Warhead continuity checks performed on all four warheads indicated that two warheads were defective.

8 (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

9. A PT-886 check was performed on each warhead of the twelve subjected to lightning and any others rejected as a result of T-290 tritium tests. No indication that any reservoir squibs had been activated was obtained.

Incident #18 (S) DASA Code 502-75

Date - 8 May 1965

1. An XM48 HONEST JOHN Warhead fell from a truck bed during a convoy operation. The H416 Sling was still partially attached to the warhead container when the vehicle moved forward pulling the warhead off the truck.

2. The extent of damage to the warhead was unknown.

3. The apparent cause of the incident was personnel error.

Incident #19 (S/RD) DASA Code 503-75

Date - 17 May 1965

1. A Mk 31-0 Warhead was dropped during transfer from an M405 Handling Unit to an XM655 Handling Dolly. The warhead struck a solid object at approximately Station 82. The impact caused a dent in the bottom of the center aft ballistic case section approximately 12-inches long around the circumference from about the 4:30 o'clock to the 6:30 o'clock position. The dent was approximately 4 1/2-inches wide from Station 80 to Station 84.5 and was approximately 1/2 to 3/4-inches deep.

2. The dent pressed on the forward edge of the H. E. Sphere Case of the warhead.

3. The cause of the incident was unknown.

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ACCIDENT - INCIDENT SUMMARY

1 June through 31 August 1965

TYPE OF ACTIVITY	CAUSE												TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other				Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None	
TRANSPORTATION																				
Tactical Air																				
Logistical Air																				
Rail																				
Ship																				
Motor Vehicle	1												1		1					
HANDLING																				
Mechanical Equipment								1					1		1					
Manual																				
OPERATIONS																				
Aircraft Loading and Downloading			1										1						1	
Aircraft Postload Check																				
Warhead Mating																				
Missile Operations					1								1			1				
ADM																				
Test and Maintenance	3	1	1					3	1				9		2	7				
Inspection	4												4		4					
Training																				
Storage									1				1						1	
Aircraft Alert					1								1						1	
TOTAL	8	1	2		2			4	2				19		8	7	1		3	

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Accidents and Incidents During the Period 1 September 1965 through 31 December 1965.

Incident #1 (SRD) DASA Code 503-105

Date - 12 October 1965

1. A C-124 Aircraft was being refueled by a Refueling Unit Type F-6 when a fire occurred a the aft end of the refueling trailer. Shortly after all personnel had withdrawn to a safe distance, both the aircraft and the refueling unit were engulfed in flames.

2. The fuselage of the C-124 containing the following items was totally destroyed by fire:

68 each Type 1A Reservoirs
27 each Toroidal Reservoirs
86 each Neutron Generators
1 each Mk 53 training unit
70 each Detonating fuses (Class C)

3. Two of the tritium reservoirs were ruptured. However, air monitoring indicated no radia tion hazard. The ruptured reservoirs were wrapped in plastic and placed in special containers. T containers in turn were wrapped in plastic and taped.

4. Swipe tests, air monitoring and monitoring of wash down water and foam revealed very lo nonhazardous tritium levels.

5. Urinalysis tests of 28 individuals indicated a nonhazardous level of 4 to 24 microcuries pe liter.

Incidents #2-3 (CRD) DASA Code 502-15
503-115

Date - 25-28 October 1965

1. Two incidents involving loose threaded inserts on the face of the MC1100 of Mk 28 Weapon were observed.

2. The cause of the condition was attributed to faulty manufacturing procedures.

Incident #4 (CRD) DASA Code 502-095

Date - 31 August 1965

1. During disassembly of a Mk 28 Warhead it was observed that an excessive amount of force was required to remove 1 of the 12 screws which secured the warhead cover. Upon removal of the screws it was determined that the screw threads were stripped and the Heli-Coil Insert was damaged.

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2. The weapon was rejected.

3. The cause of the incident is unknown.

Incident #5 (S/RD) DASA Code 501-115

Date - 27 October 1965

1. During recoding of a Mk 28 Y4 Mod 4 Warhead using a T1509A the warhead failed to recode. For verification purposes the same T1509A was then used successfully to recode two other warheads.

2. Subsequently the Mk 28 Warhead which failed to recode was successfully enabled with a T1508 Weapon Test Set. Further attempts to recode the warhead using the T1509A also failed.

3. Failure to recode was attributed to a malfunction of the code switch pack in the MC1808.

Incident #6 (S/RD) DASA Code 504-095

Date - 20 September 1965

1. A Mk 45 Mod 0 Torpedo with a Mk 34 Mod 3 Warhead (trainer) was being moved from the torpedo room into a torpedo tube. When the unit was being moved into the tube, the tube stop bolt jammed on the guide stud making it impossible to withdraw the unit from the tube by normal means.

2. The unit was removed from the tube by using jacking bolts and a strongback bearing on the forward edges of the stabilizer and elevator fins.

3. There was no damage to the unit.

4. The cause of the incident was personnel error; i.e., failure to comply with check sheets. Prior to moving the unit into the tube personnel erroneously checked the solid end of the guide stud in the aft position when it was actually in the forward position.

Incidents #7-8-9-10 (S/RD) DASA Code 511-115
508-125
510-085
513-115

Dates - October through December 1965

1. Four incidents involving pressure sealant failures on Mk 43 Bombs have occurred. Most of the resulting leaks were discovered during TP B43-506 procedures or other procedures requiring breaking of pressure seals and subsequent resealing.

2. The pressure leaks have been attributed to sealant compound failure.

3. Revised procedures for handling of the sealant have been published which should reduce the number of leakers.

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Incidents #11-12 (~~SRD~~) DASA Code 501-095
505-105

Date - 3 September 1965
18 October 1965

1. During modification of a Mk 43 Y2 Mod 2 Basic Assembly, the connector shell of the d tor cable separated from the connector barrel.

2. The cause of the incident was insufficient glue to retain the barrel in the shell.

Incidents #13-14-15-16 (~~SRD~~) DASA Code 501-105
505-125
Date - September through December 1965 513-115
512-115

1. Four separate incidents involving bent pins in the J-1 Plug of CF1450 Cable of Mk 43 Weapons have been reported.

2. The damage was attributed to misalignment of the pins during assembly.

~~Incident #14~~ (~~SRD~~) DASA Code ~~505-125~~

Date - 5 December 1965

1. An A4 Aircraft with a (b)(3):42 USC 2162(a) Weapon aboard rolled over the side of an aircraft carrier from the number 2 elevator. DTRA b(3

2. The aircraft and weapon sank in water 2700 fathoms deep and were not recovered.

Incident #18 (~~SRD~~) ~~DASA Code 505-115~~

Date - 5 November 1965

1. A Mk 53 Y1 Mod 0 Bomb was pressure checked in accordance with paragraph 8-4.2.1 of TP B53-1. The DS-2 Lamp failed to light and the DS-1 Lamp did light.

2. The weapon was rejected as specified in paragraph 8-3.2.5.

3. Another CT1360 Cable was used and the same condition was noted.

4. Cause of the malfunction was not known and the weapon was returned to a depot organization for disposition.

Incident #19 (~~SRD~~) DASA Code 507-115

Date - 12 November 1965

1. A Mk 53 Y1 Mod 0 Bomb was downloaded from a B52 Aircraft and Alt 264 was performe The weapon passed the electrical check and was uploaded and downloaded again.

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2. During the acceptance test which followed, the DS-2 Lamp of the T304-C Tester failed to light. Another T304-C Tester and CT1360 were used and the DS-2 failure to light persisted.

3. The weapon was returned to a depot for analysis since the cause of the apparent malfunction was unknown.

Incident #20 (~~S/RD~~) DASA Code 502-125

Date - 2 December 1965

1. A Mk 57 War Reserve Bomb was slightly damaged when it fell a distance of approximately 4 feet from a hoist.

2. The cause of the incident was attributed to human error; i.e., failure of an individual to follow prescribed procedures. The pin holding the 896 assembly to the hoist was placed in the "B" face hole rather than the "A" face hole.

3. Damage to the weapon consisted of a dent in the MC1415, slight denting and scratching of the Mod 0 nose and a cracked MC1412 forward fin.

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ACCIDENT - INCIDENT SUMMARY

1 September through 31 December 1965

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																		
Tactical Air																		
Logistical Air					1						1							1
Rail																		
Ship																		
Motor Vehicle																		
HANDLING																		
Mechanical Equipment	1							1			2		1			1		
Manual																		
OPERATIONS																		
Aircraft Loading and Downloading								1			1							1
Aircraft Postload Check																		
Warhead Mating																		
Missile Operations	1		1								2			1				1
ADM																		
Test and Maintenance		4	1					9			14		9	4				1
Inspection																		
Training																		
Storage																		
Aircraft Alert																		
TOTAL	2	4	2		1			2	9		20		10	5		1		4

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Accidents and Incidents During the Period 1 January 1966 through 31 March 1966

Accident #1: ~~(SRD/RD)~~ DASA Code 507-016

Date - 17 January 1966

1. (b)(3):42 USC 2162(a) DOE (b)(3)

(b)(3):42 USC 2162(a) Both aircraft were destroyed.

2. Three of the four Mk 28 Weapons were located on land and the fourth weapon was subsequently recovered from the sea from a depth of about 2550 feet. The first weapon was located approximately 400 yards from the shoreline, the second weapon approximately one mile inland in a westerly direction, in a village, and the third weapon was located approximately one mile west of the second weapon.

3. 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.

4. The primary of the second weapon which impacted in the village apparently underwent a low order detonation. (b)(3):42 USC 2162(a) DOE (b)3 The pit was not recovered and alpha monitoring in the general vicinity of the weapon revealed an alpha level of approximately 5000 cpm. A maximum of 185,000 cpm was detected in the immediate vicinity of the weapon debris. The weapon secondary was found in the crater which measured 3 to 5 feet in diameter by 3 feet deep. The secondary was cracked but intact except for small pieces broken out from around the end plug. 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. The ruptured tritium reservoir was found about 1500 feet from the impact point.

5. The third weapon which impacted in rocky hills also experienced a low order detonation of the primary explosives. Approximately 10 per cent of the high explosives was recovered. The weapon secondary was found in the crater. (b)(3):42 USC 2162(a) DOE (b)3

(b)(3):42 USC 2162(a) The reservoir, which was bent and mashed but apparently intact, was recovered approximately 25 feet from the crater. The crater measured approximately

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20 feet across and 6 feet deep. The afterbody and parachute pack were blown approximately 10(from the crater. The mild detonating fuze had detonated and the pilot chute had spilled out. Th main chute was out of the ruptured afterbody case but was retained in the chute cover. A portio the weapon pit was recovered.

6. The fourth weapon recovered from the sea was disassembled by Explosive Ordnance D posal (EOD) personnel who performed EOD procedures of EODL 62-29. Difficulty was experien 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 arour the internal components making removal of the cover difficult. A small amount of water was fo in the warhead. Difficulty was also experienced in removal of the thermal battery pack. The weapon nose had a large dent on the lower side and four small dents forward of the front rivet li The weapon was not corroded except for small blisters on the tail section. The Ready-Safe Swit was in the safe position and the pull-out rods had been extracted and were missing. The tail sec had two long gashes through both skin layers along each side of the bottom fin and the fin appear to be bent inward. The tail closing plate and the ring were forced off and the parachutes were d ployed. Both velocity fence covers were missing.

Accident #2 ~~(CFRD)~~ DASA Code 502-026

Date - 7 February 1966

1. In preparation for spray painting, a Mk 28 Y1 Mod 2 War Reserve Bomb was raised by overhead hoist using the H-418A Bomb to Hoist Adapter.

2. Because of a lunch break the weapon was left unattended while suspended approximatel 3 feet from the floor and after an elapsed time of approximately two minutes the unit fell to the fl

3. The weapon sustained major mechanical damage to the fuse and fins and the weapon separated where the MC1477 Rear Ballistic Case Section is bolted to the FISC. The FISC was buckled and distorted.

4. The cause of the accident was personnel error; i.e., failure to inspect the lug catch of H-418A to determine that it was in the fully locked position.

27 Incident #1 ~~(CFRD)~~ DASA Code 505-036

Date - 15 March 1966

1. While removing the warhead container cover from a Mk 28 Warhead, an excessive amo of force was required to remove two of the 12 socket head cap screws. Upon removal, it was determined that the screw threads were stripped to a distance of 1/2 inch from the insert end and t Heliocoil inserts were damaged to the point that they would not accept new screws.

2. Damage was attributed to human error; i.e., failure to start screws properly during la limited life component change.

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Incident #2 ~~(CFRD)~~ DASA Code 507-036

Date - 15 March 1966

1. During installation of limited life components on a Mk 28 Y1 Mod 2 Warhead, the socket head cap screw did not seat completely on the lower bracket. The hole for the cap screw apparently was not deep enough to permit proper seating of the head. It was also noted that the two upper bolts securing the component shelf to the X-Unit were loose.

2. The failure of the socket head cap screw to seat properly was attributed to error in manufacturing.

Incident #3 ~~(CFRD)~~ DASA Code 506-036

Date - 12 March 1966

1. During inspection of a B-52G Aircraft with four Mk 28 Mod 2 Bombs in MHU-20/C configuration, it was observed that the forward In-flight Control (IFC) circuit breaker was open. The circuit breaker was closed again, but upon switching the DCU-9/A to the safe position; the breaker opened. The MHU-20/C was downloaded and a replacement unit was loaded on the aircraft. The circuit breaker did not trip with the replacement MHU-20/C installed. The bombs were removed from the first MHU-20/C and remated to a different MHU-20/C. This MHU-20/C was loaded on another B-52G Aircraft and again when the DCU-9/A was rotated to the safe position, the IFC circuit breaker tripped.

2. Training weapons were then loaded on the aircraft. The four CF1651 Pullout Cable Assemblies from the downloaded MHU-20/C were individually connected to training weapons and a defective cable was isolated. An ohmmeter check of the defective cable revealed that pin A of P1 was shorted to the shell of the cable.

Incident #4 ~~(CFRD)~~ DASA Code 504-016

Date - 4 January 1966

1. During removal of the pressure bulkhead from a Mk 43 Mod 0 Bomb, a mark was observed on the bomb case at the 12 o'clock position. The mark extended from the J2 receptacle to the rear of the case. Investigation revealed that the mark was a crack 5/8 inch long, 1/32 inch wide and in excess of 1/4 inch deep. Another similar crack was found between J1 and J2.

2. The cause of the crack is unknown.

Incident #5 ~~(CFRD)~~ DASA Code 505-026

Date - 23 February 1966

1. A Mk 43 Y2 Mod 2 Bomb had been loaded on an F-105D Aircraft. During Step 6 of the post load check list, the team member in the cockpit placed the DCU-102/A Option Selector Switch in the safe position and noted a flicker in the DCU-102/A warning light. The option selector switch was turned to the off position and power was removed from the aircraft. The weapon was then unloaded from the aircraft and the strike enabling plug was removed.

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2. Investigation indicated that the MC1026 Ready-Safe Switch had stopped in the intermed position.

3. The cause of the incident was attributed to a bent pin in an aircraft wiring connector. (Cable 79F810670-1.)

Incident #6 ~~(CFRD)~~ DASA Code 510-016

Date - 19 January 1966

1. A Terrier Missile with a Mk 45 Y1 Mod 0 Warhead was dropped a distance of 8 feet du failure of the holding pin on the clamp link of the booster suitcase.

2. The warhead was removed from the warhead section and was returned to an AEC facili

3. The warhead had a dent in the case adjacent to the access cover approximately 7 inche long, 3/16 inch deep, and 2 1/2 inches wide. There was also a dent in the case cavity approxim 8 inches long by 1/16 inch wide. The MC1330 Detonator and Firing Set contained a crack about 2 inches long.

4. The cause of the incident was mechanical failure.

Incident #7 ~~(CFRD)~~ DASA Code 512-016

Date - 22 January 1966

DOE 6(3)

1 (b)(3):42 USC 2162(a)

(b)(3):42 USC 2162(a)

2. All missiles were removed from the area and dried by hand. Mating surfaces were wi with fresh water and air dried. All missiles were returned to operational status.

3. The cause of the incident was human error.

Incident #8 ~~(CFRD)~~ DASA Code 503-026

Date - 15 February 1966

1. During the post-load check of a Mk 53 Mod 0 War Reserve Weapon aboard a B-52 Aircr the option select switch could not be turned from the safe to free fall or retard positions.

2. The weapon was downloaded and replaced with another weapon which functioned properly

3. Cause of the malfunction was unknown.

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Incidents #9, 10, and 11 (~~CFRD~~), DASA Codes 502-036
504-026
503-036

Date - 17 February thru 28 March 1966

1. After downloading of a Mk 53 Mod 0 Weapon from an aircraft, the weapon was rejected due to failure of the DS-2 Lamp of the T-304 Tester to light.

2. Cause and identification of the defect are unknown.

3. Two other incidents identical to the above have occurred.

Incident #12 (~~CFRD~~) DASA Code 509-036

Date - 15 March 1966

1. Inspection of the warhead connector of a Mk 54 Mod 0 Warhead revealed a bubble approximately 3/16 inch long by 11/32 inch wide by 1/8 inch high in the seal between the fire set and the warhead case section.

2. The cause of the bubble was believed to be environmental changes during storage and transportation of the warhead.

Incident #13 (~~CFRD~~), DASA Code 508-026

Date - 18 February 1966

1. During disassembly of a Mk 11A Re-entry Vehicle, Mk 56 Mod 2 Warhead, inspection of connector P1 of cable P/N 330545-1 revealed pin 4 was bent. The bent pin caused a puncture in the neoprene bushing of connector J1 of the RV body section.

2. The cause of this incident is unknown.

Incident #14 (~~CFRD~~), DASA Code 504-036

Date - 9 March 1966

1. A nuclear target ring 992TZ dropped from the H-36 handling tool during insertion into the M102 Carrying Case.

2. The ring was slightly burred but not otherwise damaged.

3. Cause of the incident was personnel error; i.e., failure to properly seat the H-36 in the ring.

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ACCIDENT - INCIDENT SUMMARY

1 January 1966 thru 31 March 1966

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD						
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																		
Tactical Air								1				1				1		
Logistical Air																		
Rail																		
Ship	1											1					1	
Motor Vehicle																		
HANDLING																		
Mechanical Equipment																		
Manual																		
OPERATIONS																		
Aircraft Loading and Downloading			3									3					3	
Aircraft Postload Check		1	2									3	1	2				
Warhead Mating							1					1		1				
Missile Operations		1										1	1					
ADM																		
Test and Maintenance	3	1						1				5	4				1	
Inspection						1						1	1					
Training																		
Storage																		
Aircraft Alert																		
TOTAL	4	3	5			1		2	1			16	7	3		1	5	

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Accidents and Incidents During the Period 1 April 1966 through 30 June 1966

Incident #1: ~~(CFRD)~~ DASA Code 503-066

Date - 6 June 1966

1. Following removal from a strike aircraft, a Mk 28 Y3 Mod 4 War Reserve Bomb failed the T-304 electrical monitor test. When the T-304C knob was rotated clockwise, the DS1 and DS2 lamps failed to light. When the knob was rotated counterclockwise the DS1 and DS2 lamps lit.

2. A check revealed that all cable connections were properly made.

3. The cause of the malfunction is unknown.

Incident #2: ~~(CFRD)~~

Date - Unknown

1. Prior to installation of the H-557, Ballistics Case Section Sling, during maintenance operations on an RESC 28-1, it was noted that the Helicoil fitting hole on the MC-926 Tail, Ballistic, Case Section was stripped and that structural damage had been sustained at the seam immediately adjacent to the rear of the tapped hole.

2. The cause of the damage was unknown.

Incident #3: ~~(CFRD)~~

Date - 15 June 1966

1. The Ready/Safe Switch of a Mk 43 Bomb rotated to the Ready position when power was applied to begin an aircraft post-load check.

2. The cause of the incident was human failure; i.e., failure to follow prescribed check lists with the result that the shorting cable was not removed from the forward pylon.

3. The weapon was not damaged.

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Incident #4: ~~(CFRD)~~ DASA Code 509-044

Date - April 1966

1. Following removal from operational use, inspection of a Mk 43 Mod 1 Bomb revealed presence of sealant around the pulse plug. The sealant appeared to have been forced in over the conductive gasket during installation and the condition could result in loss of electrical continuit between the MC-1821 Breakaway Pulse Assembly Connector and the weapon case.

2. One time authority to replace the conductive gasket was granted.

3. The cause of the incident was unknown.

Incident #5: ~~(CFRD)~~ DASA Code 501-066

Date - 3 June 1966

1. Due to personnel error, a shipboard sprinkling system was accidently activated, spra salt water into the missile house containing TERRIER Missiles with Mk 45 Warheads.

2. No damage was sustained by the warheads.

Incident #6 - 7: ~~(CFRD)~~

Date - 28 June 1966

1. Inspection during removal of the parachute from a Mk 53 Y1 Mod 1 Bomb revealed tha the MC1678 Shaped Explosive Charge was separated from the MC1060 Electric Detonator.

2. The cause of the damage was attributed to personnel error during a previous installat of the parachute.

3. Another incident identical to the above occurred on 28 June 1966.

Incident #8: ~~(CFRD)~~ DASA Code 507-066

Date - 3 June 1966

1. Inspection of a Mk 54 Mod 0 War Reserve Warhead revealed an over-tolerance dent in the cylindrical portion of the warhead case section.

2. This dent was previously recorded but was within tolerance. The cause of the dent wa unknown.

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Incident #9: ~~(SFRD)~~ DASA Code 505-066

Date - 3 June 1966

1. During installation of a Mk 56 Mod 1 War Reserve Warhead in accordance with 11N-RV11-2-1, the warhead did not seat properly on the zero degree guide pin, and the warhead flange sustained damage in excess of the maximum dent and scratch criteria for the warhead flange.

2. The damage was attributed to personnel error combined with possible misalignment of the zero and 180 degree guide pins.

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ACCIDENT - INCIDENT SUMMARY

1 April 1966 thru 30 June 1966

TYPE OF ACTIVITY	CAUSE												TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other				Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None	
TRANSPORTATION																				
Tactical Air																				
Logistical Air																				
Rail																				
Ship																				
Motor Vehicle																				
HANDLING																				
Mechanical Equipment									1				1		1					
Manual																				
OPERATIONS																				
Aircraft Loading and Downloading							1						1						1	
Aircraft Postload Check	1												1						1	
Warhead Mating	1												1		1					
Missile Operations																				
ADM																				
Test and Maintenance	2	1											3		1		2			
Inspection							1						1	1						
Training																				
Storage	1												1						1	
Aircraft Alert																				
TOTAL	5	1					2	1					9	3	1		2	3		

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Accidents and Incidents During the Period 1 July 1966 through 30 September 1966

Incident #1: ~~(CFRD)~~ DASA Code 502-076

Date - 7 July 1966

1. Three Mk 28 Mod 1 EX Bombs were exposed to salt water spray for a period of 15-20 minutes when a shipboard fire main leaked.

2. Inspection and monitoring revealed no apparent damage to the weapons.

3. Cause of the incident was a deteriorated fire main.

Incidents #2 and #3: ~~(CFRD)~~ DASA Code 507-076

Date - 5 July 1966

1. During re-entry vehicle recycle, inspection revealed thread marks through 30 per cent of the mounting flange bolt hole A-1 of the Mk 53 Mod 0 Warhead. The warhead was rejected in accordance with paragraph 5-7.5.2, TP W53-1.

2. The cause of the incident was possible misalignment of the warhead during assembly.

3. Another incident similar to the above was reported.

Incident #4: ~~(CFRD)~~ DASA Code 504-076

Date - 15 July 1966

1. Inspection of a Mk 28 Y3 War Reserve Bomb revealed that the front suspension lug insert was loose. The bomb had just been removed from an aircraft on alert status and had experienced 20 aircraft loadings prior to the incident.

2. The cause of the incident is unknown.

3. The bomb was returned to a repair facility.

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Incident #5: ~~(CFRD)~~ DASA Code 505-076

Date - 21 July 1966

1. A Mk 30 Mod 2 Warhead mated to a Talos Missile was being returned to storage on a m transfer cart when the missile separated from its booster. The missile dropped approximately inches in a slightly nose-down attitude striking the lower roll ring rubber pads of the missile ca

2. No internal damage was sustained by the missile. The accessory compartment skin was dented to a depth of approximately 2 inches.

3. The cause of the incident was attributed to failure of the bar locking wire due to possible over-torquing.

4. The Mk 30 Warhead was not damaged.

Incident #6: ~~(SRD)~~ DASA Code 506-076

Date - July 1966

1. Post loading procedures on a Mk 57 Mod 2 Bomb indicated the following deficiency. Whe the option selector switch was rotated to the safe position the T1517 warning light came on and re mained on. Disarming procedures were performed with the MC1352 Ready-Safe Switch in the sai position.

2. An aircraft check indicated no discrepancies.

3. The weapon was placed in red status and the strike enable plug was removed.

4. The cause of the incident is being investigated with a defective CF1776 Cable or T1517 su pected as the cause.

Incident #7: ~~(CFRD)~~ DASA Code 501-086

Date - 5 August 1966

1. A Mk 43 Weapon sustained structural damage to the lower right fin, MC1625, as a result catapult bridle slap during launch.

2. Corrective action. The length of the minimum prescribed bridle runout will be increased 38 feet vice 35 feet.

3. The weapon fin was replaced from base spares.

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Incident #8: ~~(CFRD)~~ DASA Code 502-086

Date - 8 August 1966

1. A Mk 43 Mod 0 Training Bomb was damaged during a readiness loading exercise.

2. The weapon was positioned under an aircraft in preparation for hoisting onto the bomb rack. Upon hoisting the bomb to the rack, it was noted that the truck tray was not centered and was rubbing the forward supporting arm on the left side of the truck causing an uneven lifting action. When the tray was raised above the arm no further difficulty was encountered. The weapon was raised to approximately 3 inches below the suspension lugs and the necessary tilt applied by the tilt control mechanism.

3. In attempting to lower the weapon to install a special lug, the tilt mechanism failed allowing the tray to rotate to the rear causing the lower right fin to contact the deck.

4. Inspection of the AERO 33D bomb truck revealed two sheared bolts aft of the forward left wheel and two sheared bolts in the left tilt mechanism.

5. Damage to the weapon consisted of a deformation of one-eighth inch at the trailing edge of lower right fin.

6. Cause of the incident was human error; i.e., failure to properly inspect the AERO 33D hand truck.

Incidents #9, #10, and #11: ~~(SRD)~~ DASA Code 505-096

Date - September 1966

1. Inspection of Mk 59 Mod 0 War Reserve Weapon revealed foreign material in center hole of the type 1E Squib Valve assembly.

2. The warhead was rejected.

3. Further inspection indicated that damage had been sustained by the type 1 seal. It appeared that a small peice of rubber had been pinched off, and fell into the center hole of the valve.

4. The cause of the incident is attributed to manufacturing error during initial installation of the reservoir.

5. Two additional incidents similar to the above have been reported.

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ACCIDENT - INCIDENT SUMMARY
1 July 1966 through 30 September 1966

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD						
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None
TRANSPORTATION																		
Tactical Air				1								1	1					
Logistical Air																		
Rail																		
Ship																		
Motor Vehicle																		
HANDLING																		
Mechanical Equipment		1										1						1
Manual																		
OPERATIONS																		
Aircraft Loading and Downloading	1											1	1					
Aircraft Postload Check			1									1		1				
Warhead Mating																		
Missile Operations	2											2	2					
ADM																		
Test and Maintenance																		
Inspection	3							1				4	4					
Training																		
Storage									1			1						1
Aircraft Alert																		
TOTAL	6	1	1	1			1	1				11	8	1			2	

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Accidents and Incidents During the Period 1 October 1966 through 31 March 1967

Accident #1: ~~(SRD)~~ DASA Code 502-37

Date - 25 March 1967

1. A mortar shell explosion in a shipboard ASROC compartment resulted in ignition of one Rocket-Thrown Depth Charge (RTDC) rocket motor. The rocket motor vented through the casing which was apparently weakened by shrapnel holes. The motor moved approximately 1 inch forward in the chocks.

2. No adjacent Rocket-Thrown Torpedos (RTT's) or RTDC's ignited despite intense heat from the burning rocket motor. Other weapons were damaged due to shrapnel and water from flooding of the magazine.

3. No visual damage was sustained by the Mk 44 Warheads.

Incident #1 and #2: ~~(CFRD)~~ DASA Code 56-37

Date - 14 March 1967

1. Two incidents involving T-304 tests of Mk 28 Y3 Mod 4 Bombs occurred. The DS1 and DS2 lamps failed to light when the T-304 was operated in the clockwise direction. The bombs were rejected and the MC-796 Thermal Batteries were removed. Testing of the T-304 indicated that the instrument was operating satisfactorily.

2. The cause of the incidents is unknown.

Incident #3: ~~(SRD)~~ DASA Code 501-17

Date - 23 January 1967

1. The DCU-9/A warning lamp lighted during pre-flight of a B-52 Aircraft with four Mk 28 Mod 2 War Reserve Bombs aboard in an MHU-20/C clip-in assembly. The lamp remained on in all four positions of the SWK box. The control circuit breaker was pulled and all power was removed from the aircraft.

2. Safing wires and seals were found to be intact. A check of the MC-1352 Ready-Safe Switches revealed that the lower left, upper left, and lower right Ready-Safe Switches were in the Ready position. The upper right switch was in the Safe position. The three switches in the Ready position were manually placed in the Safe position and the high voltage thermal batteries were removed.

3. Subsequent testing of the MHU-20/C clip-in assembly revealed no malfunction indications. The weapons were scheduled for return to an AEC facility for examination.

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Incident #4: ~~(CFRD)~~ DASA Code 94-37

Date - 20 March 1967

1. During movement of a Mk 28 Y2 War Reserve Weapon into a maintenance bay, the tail fi of the weapon impacted the nose of another weapon resulting in a puncture in the MC-1472 approx mately 1.5-inches long x 0.25-inches wide x 0.5-inches deep at the two o'clock position.

2. The cause of the incident was determined to be personnel error; i.e., failure of the team chief to properly supervise the movement.

Incident #5: ~~(CFRD)~~ DASA Code 501-36

Date - 24 February 1967

1. A Mk 11 Re-entry Vehicle containing a Mk 56 Mod 1 Warhead was dropped from its cradl through a distance of approximately 2 feet to a concrete floor.

2. The cause of the incident was failure to install the cradle tie-downs prior to rotation in t maintenance stand.

3. Inspection and test indicated no damage to the warhead. The AVCOAT was shattered fro the tip of the nose to approximately 24 inches along the bomb section of the Re-entry Vehicle.

4. The cause of the incident was personnel error.

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ACCIDENT - INCIDENT SUMMARY
1 October 1966 thru 31 March 1967

TYPE OF ACTIVITY	CAUSE											TOTAL	TYPE OF DAMAGE TO BOMB OR WARHEAD							
	Personnel Error	Mechanical Malfunction	Electrical Malfunction	Design Deficiency	Fire and Lightning	Environmental	Inadequate Procedures	Unknown	Material Failure	Other			Mechanical	Electrical	Fuzing or Firing Component Activation	Total Loss	Explosive Components	None	
TRANSPORTATION																			
Tactical Air																			
Logistical Air																			
Rail																			
Ship																			
Motor Vehicle																			
HANDLING																			
Mechanical Equipment																			
Manual																			
OPERATIONS																			
Aircraft Loading and Downloading																		1	
Aircraft Postload Check			1									1							
Warhead Mating																			
Missile Operations	1											1		1					
ADM																			
Test and Maintenance	1		2									3		1				2	
Inspection																			
Training																			
Storage										1		1						1	
Aircraft Alert																			
TOTAL	2		3							1		6		2				4	

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