

LISTA INCIDENTI NUCLEARI E CORRELATI (fino al 1970)
in costante aggiornamento

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DI SEGUITO E' RIPORTATO UN ELENCO DI INCIDENTI/ESPLOSIONI NUCLEARI, EVENTI CON CAUSE RADIOATTIVE ED ALTRI CORRELATI O CONNESSI. LE ANNOTAZIONI IN ROSSO SONO TRATTE DAL SITO DEL PROGETTO HUMUS ALLA SEGUENTE PAGINA <http://www.progettohumus.it/nucleare.php?name=specialdbnuke2> , DOVE CLICCANDO SUL LUOGO DELL'EVENTO SI HA LA DESCRIZIONE DELLO STESSO. PER MAGGIORI INFORMAZIONI, INVECE, SULLE ESPLOSIONI NUCLEARI, VEDI QUI: <http://www.progettohumus.it/nucleare.php?name=specialtrinity> E PER VEDERNE L'ELENCO COMPLETO QUI: http://www.seismo.ethz.ch/bsv/nuclear_explosions.html

L'IMPOSTAZIONE E L'IMPAGINAMENTO DI QUESTO TOPIC POSSONO RISULTARE NON SEMPRE IN ORDINE PER IL COSTANTE LAVORO DI AGGIORNAMENTO E CATALOGAZIONE

~1896 - Chicago, Illinois, USA: sovraesposizione radiografica A man had a broken ankle x-rayed by a doctor, after which he developed skin injuries eventually requiring amputation of the foot. He later sued the doctor and was awarded \$10,000.

~1905 - Washington, Columbia, USA: sovraesposizione radiografica A woman with broken ribs received seven x-rays under a doctor's care, after which she developed skin burns later identified as radiation burns by another doctor. The x-rays were administered over several visits, with skin burns developing on her back five hours after the last x-rays. The woman sued the administering doctor, with the case eventually appealed to the U.S. Supreme Court and decided 7 April 1913 in the doctor's favor in Sweeney v. Erving.

anni 1940/1970 -La sottocommissione del governo degli Stati Uniti denuncia, in un rapporto del 1986, la conduzione di esperimenti su più di 23.000 soggetti in 1.400 differenti città

22 Giugno 1942 - Leipzig, Germania. La pila atomica Leipzig L-IV, sotto la responsabilità di Werner Heisenberg e Robert Dopel, prende fuoco ed esplose. Durante una fase di revisione, dell'aria entra nel cuore del reattore accendendo la polvere d'uranio contenuta. In conseguenza, bolle l'acqua di raffreddamento ed esplose il reattore. Un getto di particelle infiammate di uranio attraversa il laboratorio causando un grave incendio.

1943/1973 - Ricercatori di Harvard e del MIT effettuano delle ricerche su 40 adolescenti maschi minorati mentali. Ai ragazzi viene somministrato cibo contaminato e la ricerca viene pubblicata nelle riviste accademiche

2 Settembre 1944 - Oak Ridge, Tennessee, USA. Un recipiente di esafluoruro di uranio esplose nella sala di trasferimento del laboratorio, uccidendo due persone e ferendone altre tre. Un tubo di vapore esplose ed il vapore si combina con un composto a base di uranio per formare fluoruro di idrogeno, inalato dalle cinque persone.

1945/1998 - Mediterraneo: 114 incidenti con coinvolgimento di una o più navi da guerra. Le tre flotte nucleari che pattugliano il Mediterraneo (USA, Gran Bretagna e Francia) hanno subito rispettivamente 61, 16 e 12 incidenti

1 Febbraio 1945 - (incidente unità navale nucleare) Pacific: In February the USS Washington (BB-56) and USS Indiana (BB-58) collide in the Pacific.

8 Febbraio 1945 - (incidente unità navale nucleare) Atlantic: A U.S. Navy minesweeper sinks after colliding with a U.S. destroyer of Boston Harbor, Massachusetts.

17 Marzo 1945 - (incidente unità navale nucleare) Atlantic: A new submarine floods and sinks after a worker opens a torpedo tube at the Boston Navy Yard.

9 Aprile 1945 - (incidente unità navale nucleare) Atlantic: A U.S. Liberty ship loaded with aerial bombs explodes, setting three merchant ships a fire and causing many casualties in Bari harbor, Italy.

9 Aprile 1945 - (incidente unità navale nucleare) Atlantic: The Allied tanker Nashbulk collides with the U.S. freighter St. Mihiel in fog off Massachusetts, killing 15.

23 Aprile 1945 - (incidente unità navale nucleare) Atlantic: A U.S. Navy PE-56 patrol ship sinks after an explosion off Cape Elizabeth, Maine, killing 49.

7 Maggio 1945 - Trinity, Alamogordo, N. Messico (USA). Prima esplosione americana strumentata che condurrà alla Bomba di Trinity. Questa bomba, contenente 1000 curies di materiale fissile, verrà fatta esplodere a 1,5 Km. di distanza dal Ground Zero di Trinity, con lo scopo di testarne le strumentazioni

22 Maggio 1945 - (incidente unità navale nucleare) Atlantic: Acetylene torch fumes ignite in the hold of a U.S. Navy attack boat, Todd Shipyards, Brooklyn, killing two

4 Giugno 1945 - Los Alamos, New Mexico, USA: fuoriuscita di massa critica di uranio arricchito

16 luglio 1945 - Trinity, Alamogordo, N. Messico (USA). Seconda esplosione a circa 29 metri d'altezza: crea una depressione di 400 m. di diametro. Il calore della deflagrazione trasforma la sabbia del deserto in un nuovo tipo di roccia cristallina battezzata la "Trinitite".

21 Giugno 1945 - (incidente unità navale nucleare) Atlantic: The USS Franklin (CV-13) suffers a boiler room fire at New York Harbor during decoration ceremonies; damage is slight.

6 Agosto 1945 - Hiroshima, Giappone: uso bellico di arma nucleare. Bomba all'uranio (Little Boy) arricchito del peso di 3.900 Kg. ad una altezza di 580 metri. 140.000 morti fino al 1946; 62.000 edifici distrutti Following prolonged strategic bombing of Japan during World War II, first combat use of a nuclear weapon was conducted by the United States. A B-29 bomber dropped a single Mk-I "Little Boy" atomic bomb over Hiroshima, estimated population 285,000. The Mk-I was a gun-type nuclear gravity bomb using highly enriched uranium. It detonated 580 meters over central Hiroshima at 8:15 AM local time with a yield estimated at 15 kilotons. The airburst height was selected to maximize the extent of prompt effects and to minimize residual radiation (fallout). Individuals at ground zero received combined gamma and neutron doses of perhaps 80,000 rad, although flash and blast would have been immediately fatal. The thermal flash produced fires which merged into a firestorm, razing much of the city. Flash, blast, and prompt radiation killed most people within 1.5 km of ground zero; immediate fatalities were generally from flash and blast injuries, with many otherwise injured and uninjured dying of fatal prompt radiation doses over the following weeks and months. Small numbers of people were injured by residual radiations (neutron-induced radioactivity and residual material from the weapon).

On the day of the bombing, an estimated 348,000 people were in Hiroshima, including 265,000 Japanese residents, 20,000 Korean residents, 12,000 conscripted Japanese workers, 3,000 conscripted Korean workers, 48,000 Japanese soldiers, and a small number of prisoners of war. Casualty figures are uncertain, despite many surveys (some figures presented here are extrapolated from partial surveys). Among civilians, possibly 44,000 to 59,000 were killed the day of the bombing, with another 17,000 missing. Subsequent deaths include about 25,000 through the end of August 1945, 9,000 in September 1945, 2,000 in October-December 1945, and 2,500 in 1946. Many of these subsequent deaths involved radiation injuries. Deaths among survivors after 1946 include greater fractions from natural causes. Less information is available regarding military fatalities, but at least 9,000 soldiers died through the end of 1946. The estimated 130,000 fatalities to 1950 include about 111,000 Japanese civilians, 12,000 Japanese soldiers, and 6,500 Koreans. After 1950, deaths attributed to radiation include about 60 leukaemia deaths, 300 other cancer deaths, and 145 non-cancer deaths. New cases of leukaemia peaked in 1951.

Those injured in the bombing numbered (through August 1946) 30,500 severely injured and 48,600 slightly injured. These figures do not include a possible 7,000 injuries among military personnel. Of 2,160 medical personnel in Hiroshima at the time of the bombing, 1,980 were killed or injured. Emergency response was supported by the arrival of about 3,270 medical personnel from surrounding areas and other parts of Japan, along with another 2,910 relief workers. An additional 40,000 to 60,000 are registered as having entered Hiroshima shortly after the bombing. Survivor registries include 2,300 individuals exposed in utero. Studies suggest that excess miscarriages and fetal deaths numbered in the dozens, and excess infant deaths (for those exposed in utero) also in the dozens. About 45 cases of microcephaly are known among those exposed in utero, including at least 15 with mental retardation.

Portions of Hiroshima with little or no damage were continuously inhabited, and the city was rebuilt. Hiroshima reattained its pre-attack population by 1954 and had a population of 1,066,000 in 1992.

9 Agosto 1945 - Nagasaki, Giappone: uso bellico di arma nucleare. Bomba al plutonio (Fat Man) del peso di 4.050 Kg. ad una altezza di circa 500 metri: ~73.884 morti a fine 1945 Following prolonged strategic bombing of Japan during World War II, the United States conducted the second combat use of a nuclear weapon (following the attack on Hiroshima 3 days earlier). A B-29 bomber dropped a single Mk-II "Fat Man" atomic bomb over Nagasaki, estimated population 240,000. The Mk-II was an implosion design nuclear gravity bomb using plutonium. The primary target city, Kokura, had been covered by clouds, as was Nagasaki (the secondary target) when the bomber arrived. The bomb was dropped through a gap in the cloud cover over a point somewhat displaced from the city center. It detonated 500 meters over Nagasaki at 11:02 AM local time with a yield estimated at 21 kilotons. The airburst height was selected to maximize the extent of prompt effects and to minimize residual radiation (fallout). Individuals at ground zero received combined gamma and neutron doses of perhaps 200,000 rad, although flash and blast would have been immediately fatal. The thermal flash produced fires which swept through much of the city. Flash, blast, and prompt radiation killed most people within 1.5 km of ground zero; immediate fatalities were generally from flash and blast injuries, with many otherwise injured and uninjured dying of fatal prompt radiation doses over the following weeks and months. Small numbers of people were injured by residual radiations (neutron-induced radioactivity and residual material from the weapon).

On the day of the bombing, an estimated 263,000 were in Nagasaki, including 240,000 Japanese residents, 10,000 Korean residents, 2,500 conscripted Korean workers, 9,000 Japanese soldiers, 600 conscripted Chinese workers, and 400 prisoners of war. Casualty figures are uncertain, despite many surveys (some figures presented here are extrapolated from partial surveys). Estimated fatalities are 70,000 (various published estimates range from 22,000 to 74,000), including 2,000 Koreans and at least 100 POWs. After 1950, deaths attributed to radiation include about 35

leukaemia deaths, 175 other cancer deaths, and 85 non-cancer deaths. New cases of leukaemia peaked in 1952.

Those injured in the bombing numbered 74,900 (through December 1945). Thousands of injured survivors were transported by train and other means to neighboring cities. From 10,000 to 30,000 are registered as having entered Nagasaki shortly after the bombing. Survivor registries include 1,600 individuals exposed in utero.

Japan surrendered three days after the bombing, ending World War II. Portions of Nagasaki with little or no damage were continuously inhabited, and the city was rebuilt. Nagasaki reattained its pre-attack population by 1954 and had a population of 441,000 in 1992.

11 Agosto 1945 - Corea. Due giorni dopo la bomba atomica di Nagasaki, gli scienziati giapponesi di stanza a Konan (il maggiore complesso industriale sotto il controllo nipponico) ed ignari della decisione presa dall'imperatore di arrendersi evitando ulteriore morte e devastazione, eseguono un test nucleare: il lancio partì dal bacino di Konan, fu guidato nel mare del Giappone per entrare nel porto di una piccolissima isola. Per diversi giorni relitti di imbarcazioni e altre vecchie navi furono portate sull'isola che era talmente piccola da non risultare su molte mappe. I pochi abitanti furono evacuati. Venti miglia dall'isola gli osservatori aspettavano e pregavano che gli assidui sforzi avrebbero prodotto il risultato che tanto speravano: una forza di distruzione enorme da poter usare nell'autunno sulle forze alleate in procinto di un'invasione. Il risultato fu sorprendente: sotto la nube radioattiva le imbarcazioni erano affondate o bruciavano mentre della vegetazione sulle colline ne rimaneva solo le ceneri. Un fungo atomico che probabilmente era molto simile a quello di Hiroshima e Nagasaki. Ma tutto fu inutile per la presa di posizione dell'imperatore di cessare i combattimenti. Peranto, una volta a conoscenza dell'imminente resa, gli scienziati giapponesi si diedero da fare per distruggere tutti i loro documenti nonché tutto l'equipaggiamento e strumentazioni possibili (incluse altre bombe atomiche quasi completate) perché i russi ormai avanzavano verso il complesso di Konan dalle montagne nel nord della Corea. Tutta l'apparecchiatura non distrutta finì in Russia assieme agli scienziati che furono torturati, interrogati e cancellati dalle pagine della storia

21 Agosto 1945 - Los Alamos, New Mexico, USA: criticità di incidente con assemblaggio di plutonio (contaminato lo scienziato Harry K. Daghlian, Jr). Harry K. Daghlian crea accidentalmente una massa subcritica, lasciando cadere un mattone di carburo di tungsteno su un nucleo di plutonio. Lo scienziato rimuove subito il mattone, ma resta fatalmente irradiato. Morirà il 15 settembre. An experimenter was hand-stacking tungsten carbide bricks around a plutonium metal assembly. The plutonium assembly comprised two hemispheres with a total mass of 6.2 kg, just short of (bare) critical mass. While moving a final brick, the experimenter noticed from neutron counters that the final brick would make the assembly supercritical. At this point he accidentally dropped the brick onto the pile, providing sufficient neutron reflection to result in a supercritical power excursion. The experimenter quickly removed the final brick and disassembled the assembly. He sustained a dose of 510 rem and died 28 days later. A nearby Army guard received a dose of 50 rem.

25 Agosto 1945 - (incidente unità navale nucleare) Atlantic: A French minesweeper explodes near Marseilles, killing five.

17 Settembre 1945 - (incidente unità navale nucleare) Atlantic: The Royal Navy battleship HMS Vanguard is damaged by an explosion at Clydebank, Scotland.

8 Ottobre 1945 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Zodiac suffers an explosion.

12 Ottobre 1945 - (incidente unità navale nucleare) Atlantic: The Royal Navy vessel HMS Loch Eriboll sinks after colliding with the U.S. merchant ship Sidney Sharman in the English Channel off Start Point, U.K.

27 Ottobre 1945 - (incidente unità navale nucleare) Atlantic: The Royal Navy tug HMS Swarthy sinks in a gale at Spithead, U.K.

1 Novembre 1945 - (incidente unità navale nucleare) Pacific: A U.S. Navy shore-liberty boat capsizes in San Francisco Bay, California.

30 Novembre 1945 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Kempenfelt suffers an explosion

22 Gennaio 1946 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Cleopatra experiences an engine room explosion.

30 Gennaio 1946 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Rhyl runs a drift.

4 Febbraio 1946 - (incidente unità navale nucleare) Atlantic: The cruiser USS Prinz Eugen (IX-300) collides with a tug on a pre -test run from Boston to Philadelphia.

10 Febbraio 1946 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Saga collides with the trawler Girl Lena at night in the English Channel, sinking the Girl Lena.

11 Febbraio 1946 - (incidente unità navale nucleare) Atlantic: Fire damages four Royal Navy minesweepers docked at Dover, U.K., threatening the magazine of one.

12 Febbraio 1946 - (incidente unità navale nucleare) : The lend-lease Royal Navy dock landing ship HMS Oceanway is involved in a collision.

18 Febbraio 1946 - (incidente unità navale nucleare) Pacific: A U.S. tank landing ship suffers an explosion of ammunition in Shanghai, China, killing six and injuring 44.

1 Marzo 1946 - (incidente unità navale nucleare) Atlantic: In March the French diesel submarine Orphee explodes in Casablanca, Morocco, killing two.

17 Aprile 1946 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CV-18) runs aground off New Jersey.

1 Maggio 1946 - (incidente unità navale nucleare) Atlantic: The USS Solar (DE-221) is destroyed by an explosion while unloading ammunition at Earle, New Jersey.

14 Maggio 1946 - (incidente unità navale nucleare) Atlantic: The USS Franklin (CV-13) leaks carbon dioxide fumes while at the Brooklyn Naval Shipyard, New York, killing two.

21 Maggio 1946 - Los Alamos, New Mexico, USA: criticità di incidente con assemblaggio di plutonio (contaminato lo scienziato Louis Slotin). Il fisico canadese Louis Slotin assembla manualmente una massa critica di plutonio durante una dimostrazione. Il suo apparecchio era costituito da due semi-sfere di plutonio ricoperte da berillio, che poteva essere rimosso lentamente

per misurare la criticità. Normalmente le sfere avrebbero dovute essere manipolate da una macchina, ma Slotin lo fece manualmente inserendo le sue dita in fori, come in una palla di bowling. Un certo numero di cuscinetti avrebbe dovuto impedire alle due semi-sfere di cadere, ma li aveva rimossi. Aveva usato un cacciavite per controllare lo scarto fra le due semi-sfere. Ad un certo punto il cacciavite è scivolato e l'insieme è diventato critico. Nessuno dei sette osservatori ha ricevuto una dose mortale, ma Slotin muore il 30 maggio di un avvelenamento massivo, stimato in 1.000 Rads, o 10 Gray. An experimenter was demonstrating techniques to a group using a plutonium assembly. The assembly comprised two hemispheres of plutonium metal, total mass 6.2 kg (just short of bare critical mass). The experimenter had the two hemispheres together, separated by a screwdriver supporting the top hemisphere, when the assembly became supercritical. He separated the assembly within 0.5 seconds. The experimenter received a dose of 2100 rem, from which he died 9 days later. The other individuals in the room received doses of 360, 250, 160, 110, 65, 47, and 37 rem. The individual receiving the second highest dose, a woman, was the only other individual to develop radiation sickness.

30 Maggio 1946 - (incidente unità navale nucleare) Atlantic: The flagship USS Estes (AGC-12) is slightly damaged after a collision with the USS Los Angeles (CA-135), off Shanghai, China.

27 Giugno 1946 - (incidente unità navale nucleare) Atlantic: A Spanish C-4 submarine sinks after colliding with the Spanish destroyer Lepanto off the Balearic Islands, killing the 46 aboard the submarine.

24 Luglio 1946 - Bikini, Isole Marshall (Oceano Pacifico). Test nucleare ad una altezza di 160 metri. Gli abitanti dell'isola vengono momentaneamente evacuati al fine di far svolgere agli americani il loro test.

27 Agosto 1946 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS St. James sinks a tug during firing practice.

24 Settembre 1946 - (incidente unità navale nucleare) Atlantic: The Royal Navy tanker HMS Green Ranger is struck by a torpedo during naval firing practice in Portland harbor, U.K. The vessel is struck below the waterline but stays afloat.

6 Novembre 1946 - (incidente unità navale nucleare) Atlantic: A U.S. Navy launch hits a buoy and capsizes in Portland harbor, U.K.

15 Novembre 1946 - (incidente unità navale nucleare) Pacific: The USS Frank Knox (DD-742) and USS Higbee (DD-806) are damaged after colliding off Oahu, Hawaii.

20 Novembre 1946 - (incidente unità navale nucleare) Pacific: The USS Antietam (CV-36) suffers an explosion at the Hunters Point Navy Yard in San Francisco, killing one and injuring 34.

5 Dicembre 1946 - (incidente unità navale nucleare) Atlantic: The French submarine 2326, an ex-German U-boat, sinks 20 miles off Toulon in the Mediterranean while carrying out diving tests, killing 21.

13 Dicembre 1946 - (incidente unità navale nucleare) Atlantic: The USS Missouri (BB-63) is hit by a star shell during target practice in the North Atlantic.

Anni 1946/1956 - Viene somministrato cibo radioattivo a 19 ragazzi che frequentano la Fernland School per "ritardati mentali" in Massachusetts (farina d'avena e latte arricchiti di ferro e calcio radioattivi).

4 Aprile 1947 - (incidente unità navale nucleare) Atlantic: The USS Ernest G. Small (DD-838) runs aground off Block Island, Rhode Island.

15 Aprile 1947 - (incidente unità navale nucleare) Atlantic: The Royal Navy battleship HMS Nelson is damaged in a collision with the diesel submarine HMS Sceptre in Portland harbor, U.K.

27 Maggio 1947 - (incidente unità navale nucleare) Atlantic: The USS Johnston (DD-821) and the USS Torsk (SS-423) are damaged in a collision off New London, Connecticut.

4 Giugno 1947 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Seneschal suffers an explosion.

12 Giugno 1947 - (incidente unità navale nucleare) Atlantic: The USS Valley Forge (CV-45) suffers an explosion at the Philadelphia Naval Base, injuring 17.

1 Luglio 1947 - (incidente unità navale nucleare) Atlantic: The Italian munitions ship Panigaglia explodes while unloading munitions at Santo Stefano, Sardinia, Italy, killing 68.

2 Luglio 1947 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Aurochs is involved in a collision.

17 Luglio 1947 - (incidente unità navale nucleare) Atlantic: The Canadian destroyer Micmac is damaged in a collision with the freighter Yarmouth County in Halifax, Nova Scotia, killing five.

29 Settembre 1947 - (incidente unità navale nucleare) Atlantic: The USS Douglas H. Fox (DD-779) hits a mine in the Adriatic Sea 18 miles from Trieste, Italy, killing three.

24 Novembre 1947 - (incidente unità navale nucleare) Pacific: The U.S. Army transport Clarksdale Victory is wrecked off Hippa Island near British Columbia, Canada.

18 Febbraio 1948 - (incidente unità navale nucleare) Atlantic: A USS Midway (CV-41) launch capsizes off Hyeres, France, killing eight.

23 Febbraio 1948 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Aeneas runs aground and is refloated the same day.

2 Marzo 1948 - (incidente unità navale nucleare) Pacific: The USS Duncan (DD-874) is damaged by an explosion in the Pacific, killing one.

11 Marzo 1948 - (incidente unità navale nucleare) Atlantic: A Royal Navy firing practice inadvertently places fishermen under fire off Walton-on-the-Naze, U.K.

19 Aprile 1948 - (incidente unità navale nucleare) Atlantic: The U.S. Navy drydock O'Boyle No. 24 sinks off Cape Hatteras, North Carolina.

1 Giugno 1948 - (incidente unità navale nucleare) Atlantic: A U.S. Navy launch nearing an aircraft carrier sinks in heavy seas off Norfolk, Virginia, drowning 30.

13 Luglio 1948 - (incidente unità navale nucleare) Atlantic: The USS Portsmouth (CL-102) runs its prow into a mudbank in the St. Lawrence River but is subsequently refloated.

4 Settembre 1948 - (incidente unità navale nucleare) Atlantic: The U.S. minesweeper No. 46 runs aground off Pigeon Island Light, Lake Ontario, New York.

19 Ottobre 1948 - (incidente unità navale nucleare) Atlantic: A liberty boat of the Royal Navy aircraft carrier HMS Illustrious sinks in Portland harbor, U.K., drowning 29.

25 Novembre 1948 - (incidente unità navale nucleare) Pacific: The USS Chandler (DMS-9) and the USS Ozbourn (DD-846) collide in the Yellow Sea.

15 Febbraio 1949 - (incidente unità navale nucleare) Antarctic: The Royal Navy sloop HMS Sparrow proceeds to Port Stanley in the Falkland Islands after freeing itself from ice in Admiralty Bay.

26 Febbraio 1949 - (incidente unità navale nucleare) Arctic: The Royal Navy aircraft carrier HMS Vengeance is holed by ice during testing of special armament and equipment in the Arctic.

28 Febbraio 1949 - (incidente unità navale nucleare) Pacific: The USS Taussig (DD-746) and USS Marsh (DE-699) are damaged in a collision during maneuvers in the Pacific.

23 Marzo 1949 - (incidente unità navale nucleare) Pacific: The USS Perch (SS-313) and the USS Orleck (DD-886) are damaged in a collision during maneuvers off San Diego, California.

26 Marzo 1949 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Broadsword accidentally discharges an artillery shell over Portsmouth, U.K.

15 Aprile 1949 - (incidente unità navale nucleare) Pacific: A gun accidentally explodes aboard the USS Hollister (DD-788) during maneuvers near Pearl Harbor, Hawaii, killing four.

23 Aprile 1949 - (incidente unità navale nucleare) Pacific: The USS Fechteler (DD-870) and USS Leonard Mason (DD-852) are damaged in a collision off Oahu, Hawaii, injuring two.

30 Aprile 1949 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Myngs is damaged by a practice torpedo during exercises.

7 Maggio 1949 - (incidente unità navale nucleare) Atlantic: Pan-American Airways says anti-aircraft fire from a U.S. carrier task force burst near a plane on a Bermuda-New York flight.

1 Giugno 1949 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Chevron is damaged in a collision.

3 Giugno 1949 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Loch Fada experiences an explosion.

2 Agosto 1949 - (incidente unità navale nucleare) Atlantic: The USS Livermore (DD-429) runs aground at Barse Shoal off Cape Cod, Massachusetts.

26 Agosto 1949 - (incidente unità navale nucleare) Arctic: The USS Cochino (SS-345) explodes and sinks in Arctic seas off Norway, drowning six Navy rescuers and a Cochino technician. On 21 September the Soviet publication Red Fleet alleges the Cochino was sunk off Murmansk while scouting outmilitary information.

29 Agosto 1949 - Semipalatinsk, Kazakhstan (URSS). Prima bomba sovietica al plutonio progettata da Yakov Zeldovitch e Yuli Khariton.

22 Settembre 1949 - (incidente unità navale nucleare) Antarctic: The Argentine minesweeper Fournier sinks after striking a submerged rock in the Magellan Straits, killing 77.

9 Ottobre 1949 - (incidente unità navale nucleare) Pacific: The USS Chehalis (AOG-48) sinks after an explosion and fire in Tutuila, American Samoa.

9 Novembre 1949 - (incidente unità navale nucleare) Atlantic: The USS Tusk (SS-426) is rammed while submerged by the USS Aldebaran (AF-10) 175 miles off Labrador, Newfoundland, Canada. The submarine suffers damage to its periscope and superstructure.

31 Dicembre 1949 - (incidente unità navale nucleare) Atlantic: In 1949, a Polish ammunition ship carrying 500 tons of bombs sinks in the English Channel off Folkestone, U.K., after a collision. During 1968 harbor clearing operations the ship explodes with such force it causes earthquake reports as far away as Antarctica.

Anni '50 - A molti abitanti dell'Alaska vengono somministrati isotopi radioattivi per studiare il loro adattamento al freddo. 102 indiani Inuit e Gwich sono alimentati con capsule di Iodio 131, per poter studiare l'attività delle loro ghiandole tiroidee

13 Gennaio 1950 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Truculent sinks after colliding with the Swedish tanker Divina ten miles east of Sheerness, U.K., in the Thames Estuary, killing 64.

13 Febbraio 1950 - Costa pacifica del Canada. Un bombardiere B-36 sgancia d'urgenza una bomba in mare, senza esplosione. An American B-36 bomber #44-92075 was flying a simulated combat mission from Eielson Air Force Base, near Fairbanks, Alaska, to Carswell Air Force Base in Fort Worth, Texas carrying one weapon containing a dummy warhead. The warhead contained uranium instead of plutonium. After six hours of flight, the bomber experienced mechanical problems and was forced to shut down three of its engines at an altitude of 12,000 feet (3,700 m). Fearing that severe weather and icing would jeopardize a safe emergency landing, the weapon was jettisoned over the Pacific Ocean from a height of 8,000 ft (2,400 m). The weapon's high explosives detonated upon impact. All of the sixteen crew members and one passenger were able to parachute from the plane and twelve were subsequently rescued from Princess Royal Island. The Pentagon's summary report does not mention if the weapon was later recovered

18 Marzo 1950 - (incidente unità navale nucleare) Pacific: The net-laying ship USS Elder (AN-20) is damaged by an explosion off Kwajalein Atoll in the Pacific Ocean.

8 Aprile 1950 - (incidente unità navale nucleare) Atlantic: A Royal Navy midget submarine explodes in Portsmouth harbor, U.K., killing one.

11 Aprile 1950 - Manzano Base, Albuquerque, Nuovo Messico, USA. Un bombardiere B-29 si schianta contro una montagna, vicino alla base aerea di Kirtland AFB, e brucia. Non si ha

esplosione, perchè anche se la bomba è distrutta, l'ogiva nucleare non è inserita e viene recuperata. Three minutes after departure from Kirtland Air Force Base in Albuquerque a B-29 bomber carrying a nuclear weapon, four spare detonators, and a crew of thirteen crashed into a mountain near Manzano Base. The crash resulted in a fire which the New York Times reported as being visible from 15 miles (24 km) The bomb's casing was completely demolished and its high explosives ignited upon contact with the plane's burning fuel. However, according to the Department of Defense, the four spare detonators and all nuclear components were recovered. A nuclear detonation was not possible because, while on board, the weapon's core was not in the weapon for safety reasons. All thirteen crew members died

17 Maggio 1950 - (incidente unità navale nucleare) Atlantic: The USS General M.B. Stewart (AP-140) collides with a buoy in Port Said Harbor, Egypt, damaging the ship's propeller.

14 Giugno 1950 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Trenchant suffers an explosion.

13 Luglio 1950 - Lebanon, Ohio, USA. Un bombardiere B-50 si schianta. La carica esplosiva della bomba salta, lo stadio nucleare resta inattivo. A B-50 bomber carrying a nuclear weapon without its fissile core crashed while on a training mission from Biggs Air Force Base near El Paso, Texas. Mechanical difficulties caused the bomber to nosedive from a height of 7,000 feet and crash. The weapon's high explosives detonated upon impact, causing an explosion felt well over 25 miles away and creating a crater 25 feet deep and 200 feet square. Four officers and twelve airmen were killed in the accident.

15 Luglio 1950 - (incidente unità navale nucleare) Atlantic: Eight ammunition barges explode in Portsmouth harbor, U.K. On 18 July British officials say sabotage is a suspected cause of the explosions.

15 Luglio 1950 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Vengeance drags its moorings and collides with a quayside at Stavanger, Norway.

18 Luglio 1950 - (incidente unità navale nucleare) Atlantic: The USS Missouri (BB-63) runs aground in Chesapeake Bay, suffering light damage. On 19 July, the Soviet publication Red Fleet ridicules the grounding of the Missouri.

25 Luglio 1950 - (incidente unità navale nucleare) Pacific: The USS Benevolence (AH-13) collides with SS Mary Luckenbach while on a trial run after being taken out of mothballs for service in the Korean War. The Benevolence sinks outside San Francisco Bay, California, killing 18.

5 Agosto 1950 - Base Suisun dell'Air Force, Fairfield, California (USA). Un bombardiere B-29 che trasporta una bomba nucleare senza la sua capsula fissile si schianta e si incendia vicino ad un campeggio di roulotte occupato da 200 famiglie. L'equipaggio aveva avuto difficoltà con i propulsori dell'aereo e con il ritiro del carrello di atterraggio immediatamente dopo il decollo dalla Base dell'Air Force di Fairfield Suisun (ora base dell'Air Force di Travis), schiantandosi, infine, mentre tentava un atterraggio di emergenza. Il bombardiere stava trasportando 20-27 kg. di bombe con esplosivo convenzionale, che detonarono 15 minuti dopo lo schianto. L'esplosione seguita, fu sentita fino ad una distanza di circa 50 km. e creò un cratere largo da un capo all'altro 18 m. e profonda 1,80 m. Lo schianto e la successiva detonazione uccisero diciotto uomini del personale, incluso il generale Travis dell'Air Force, e ferì altre 60 persone.

31 Agosto 1950 - (incidente unità navale nucleare) : The Royal Navy boom defense vessel HMS Barwind experiences an explosion.

15 Settembre 1950 - (incidente unità navale nucleare) Atlantic : The French weather-observation frigate La Place sinks after an explosion while at anchor in the Baie de la Fresnaye near St.Malo, killing 51. The explosion is believed caused by a drifting magnetic mine.

16 Settembre 1950 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Armada is involved in a collision.

21 Settembre 1950 - (incidente unità navale nucleare) Atlantic : A torpedo fired from the British naval range at Binkleaves deviates from its course and sinks two sailing boats in Portland harbor, U.K.

30 Settembre 1950 - (incidente unità navale nucleare) Pacific: The French destroyer Amyot Dindeville is damaged by an explosion off Indochina.

18 Ottobre 1950 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Phoebe is involved in a collision.

27 Ottobre 1950 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Newcastle experiences a fire in a turret.

9 Novembre 1950 - (incidente unità navale nucleare) Atlantic: The USS Brownson (DD-868) and USS Charles H. Roan (DD-853) collide in the Atlantic during nighttime fleet maneuvers, killing four.

10 Novembre 1950 - Oceano Pacifico. Sgancio d'urgenza di una bomba in mare. Senza esplosione. Returning one of several U.S. Mark 4 nuclear bombs secretly deployed in Canada a B-50 had engine trouble and jettisoned the weapon at 10,500 feet (3,200 m). The crew set the bomb to self-destruct at 2,500 ft (760 m) and dropped over the St. Lawrence River. The explosion shook area residents and scattered nearly 100 pounds (45 kg) of depleted uranium used in the weapon's tamper. The plutonium core ("pit") was not in the bomb at the time

11 Novembre 1950 - (incidente unità navale nucleare) Pacific: The USS Buck (DD-761) and USS Thomason (DE-203) are damaged in a collision in the Korean Bay.

16 Gennaio 1951 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Broadsword suffers a fire, killing one.

23 Gennaio 1951 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Daring suffers a fire.

12 Febbraio 1951 - (incidente unità navale nucleare) Atlantic: The Royal Navy battleship HMS Vanguard is damaged in a collision with the aircraft carrier HMS Indomitable in the Mediterranean.

14 Febbraio 1951 - (incidente unità navale nucleare) Atlantic: The Portuguese gunboat Garo sinks after colliding with a Portuguese warship off Portugal.

7 Aprile 1951 - Runit island, Atoll Enewetak (Oceano Pacifico): test nucleare ad una altezza di 100 m.

8 Aprile 1951 - Eberiru island, Atoll d'Enewetak (Oceano Pacifico): test nucleare ad una altezza di 60 m.

16 Aprile 1951 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Affray sinks in the English Channel 30 miles north of the Island of Guernsey, killing 75. Possibly the submarine was flooded after its snorkel mast weldment failed. On 22 April all British "A" class submarines are docked pending an investigation of the Affray accident.

28 Aprile 1951 - (incidente unità navale nucleare) Atlantic: The Royal Navy munitions ship HMS Bedenham explodes in Gibraltar, killing nine.

1 Maggio 1951 - Nevada Test Site (USA): test nucleare

16 Maggio 1951 - (incidente unità navale nucleare) : The small seaplane tender USS Valcour (AVP-55) is set a fire in a collision with a collier. The fire threatens the ship's magazine.

18 Maggio 1951 - (incidente unità navale nucleare) : The USS Bairoko (CVE-115) suffers a blast, killing five.

19 Maggio 1951 - (incidente unità navale nucleare) Pacific : The French tank landing ship Adour explodes in Nha Trang, Vietnam.

23 Maggio 1951 - (incidente unità navale nucleare) Atlantic: A stray U.S. Navy torpedo sinks a fishing boat in Narragansett Bay, Rhode Island.

24 Maggio 1951 - (incidente unità navale nucleare) Atlantic: A U.S. Navy liberty launch capsizes at Newport, Rhode Island, killing 19.

8 Giugno 1951 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Bermuda suffers an explosion.

23 Agosto 1951 - (incidente unità navale nucleare) Atlantic: The USS Wisconsin (BB-64) is freed after grounding on mud flats in New York Harbor.

8 Settembre 1951 - (incidente unità navale nucleare) Atlantic: The Royal Navy battleship HMS Duke of York collides with a ferry in the Mersey River, U.K.

3 Ottobre 1951 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Grenville collides with an Italian vessel.

15 Ottobre 1951 - (incidente unità navale nucleare) Pacific: The U.N. troopship Kongo Maru is wrecked by a typhoon off southern Japan.

30 Ottobre 1951 - Nevada Test Site (USA): test nucleare

1 Novembre 1951 - Nevada Test Site (USA): test nucleare

4 Novembre 1951 - (incidente unità navale nucleare) Atlantic: The Argentine motorship Maipu sinks after colliding with the troop ship USS General M.L. Hersey (AP-148) in fog in the North Sea off Bremerhaven, West Germany. There are no reported casualties.

10 Novembre 1951 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Thorough is damaged in a collision.

2 Dicembre 1951 - (incidente unità navale nucleare) Pacific : A converted U.S. Navy landing craft sinks off San Diego, California, killing six.

1952 - USA: incidente al reattore sperimentale Argon con 4 morti.

19 Gennaio 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Chivalrous is in a collision near Malta.

28 Marzo 1952 - (incidente unità navale nucleare) : The USS Mount Baker (AE-4) collides with a South Korean freighter, killing 24 South Koreans.

22 Aprile 1952 - Yucca Flat, Nevada Test Site (USA): test nucleare ad una altezza di 1.034 m.

26 Aprile 1952 - Bikini, Isole Marshall (Oceano Pacifico): test nucleare ad una altezza di 4 m.

26 Aprile 1952 - (incidente unità navale nucleare) Atlantic: The destroyer minesweeper USS Hobson (DMS-26) sinks after colliding with the USS Wasp (CV-18) in the mid-Atlantic, killing 176 aboard the Hobson. The ships were part of a task force headed for the Mediterranean to join the Sixth Fleet. The collision occurred when the Wasp turned into the wind to receive aircraft.

26 Aprile 1952 - (incidente unità navale nucleare) Pacific: The USS St. Paul (CA-73) suffers a powder blast in a gun turret while operating off Korea, killing 30.

8 Maggio 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Tenacious is grounded in the River Foyle, Northern Ireland.

2 Giugno 1952 - Argonne National Laboratory, Illinois, USA: criticità di incidente con uranio A criticality excursion occurred in an experimental apparatus using uranium-235 oxide. The uranium oxide was in small particles (most 10 microns in diameter, some 40 microns in diameter) embedded in polystyrene plastic; a total of 6.8 kg of U-235 was involved. These fuel strips were combined with zirconium strips in a water-containing tank. Contrary to operating procedures, a control rod was being replaced while the tank was filled to the normal level with water. A criticality excursion occurred, heating the fuel sufficiently to cause bubble formation near the larger uranium oxide particles. This bubble formation forced most of the water out of the core, terminating the excursion within 0.6 seconds. Most of the 3 megajoule energy release occurred in a period of about 0.02 seconds. Doses to four individuals were 136, 127, 60, and 9 rad.

5 Giugno 1952 - Nevada Test Site (USA): test nucleare ad una altezza di 100 m.

10 Giugno 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy cruiser HMS Cumberland runs aground on Tinker Shoal, two miles off Plymouth, U.K.

14 Giugno 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Sleuth collides with the destroyer HMS Zephyr in heavy fog while leaving Portsmouth harbor, U.K. The Zephyr suffers flooding in one of its magazines.

14 Giugno 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Seneschal's collision with the Danish frigate Thetis south of the Isle of Wight is reported. The submarine's periscope and radar mast are damaged.

11 Luglio 1952 - (incidente unità navale nucleare) Atlantic: A blast aboard a French cruiser in Toulon kills one.

6 Agosto 1952 - (incidente unità navale nucleare) Atlantic: An unidentified Royal Navy submarine carries away the fishing gear of the Fleetwood Queen Alexandria trawler off the Isle of Man, U.K. The submarine is not damaged.

7 Agosto 1952 - (incidente unità navale nucleare) Pacific: The USS Boxer (CV-21) suffers an explosion and fire off Korea, killing nine.

14 Agosto 1952 - (incidente unità navale nucleare) Pacific: The USS Gregory (DD-802) and USS Marshall (DD-676) are slightly damaged after colliding off San Diego, California.

25 Settembre 1952 - (incidente unità navale nucleare) Atlantic: The French diesel submarine Sibylle (ex-HMS Sportsman) fails to surface after a dive off Toulon, France, killing 46. The submarine is believed to have burst.

3 Ottobre 1952 - Monte Bello Island (U.K.): prima bomba nucleare inglese

24 Ottobre 1952 - (incidente unità navale nucleare) Atlantic: The USS Tigron (SS-419) suffers a fire at the Philadelphia naval base, injuring two civilians.

31 Ottobre 1952 - Elugelap, Atollo Enewetak, Isole Marshall (Oceano Pacifico), USA. Test Mike. Esplosione in superficie (altezza di 10,4 metri). Prima bomba H americana (bomba a fusione). La bomba era alta come un edificio di tre piani, pesava più di 500 tonnellate ed era alimentata da combustibile criogenico e da liquido deuterio. Secondo gli ingegneri di Los Alamos, la palla di fuoco era di una dimensione pari a 4,8 Km. di diametro. Durante l'esplosione scomparvero l'isola d'Elugelap e altre isole vicine. Con Mike (nome del test), Gli USA entrarono nell'era delle armi nucleari Multi-megatoni.

12 Novembre 1952 - (incidente unità navale nucleare) Atlantic: The high speed transport USS Ruchamkin (APD-89) is rammed by a tanker 60 miles east of Cape Henry, Virginia, during maneuvers, killing five soldiers. The tanker captain denies he knew maneuvers were being conducted in the area.

16 Novembre 1952 - (incidente unità navale nucleare) Atlantic: The USS Picking (DD-685) and USS Porter (DD-800) are slightly damaged after colliding in dense fog off Virginia.

17 Novembre 1952 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Implacable is mildly damaged by a dockside fire in London.

23 Novembre 1952 - (incidente unità navale nucleare) Atlantic: The USS Wiseman (DE-667) strikes a submerged rock in Korean waters, causing damage to her sonar and hull. It proceeds to Sasebo, Japan, for repairs.

28 Novembre 1952 - (incidente unità navale nucleare) Atlantic: An Israeli naval ship disappears during a storm in the Mediterranean.

11 Dicembre 1952 - (incidente unità navale nucleare) Pacific: The USS Sitkoh Bay (CVE-86) collides with a freighter in the Pacific, but none are hurt.

12 Dicembre 1952 - Chalk River (Ontario -Canada). L'errore di un tecnico provoca una reazione che porta alla semidistruzione del nocciolo del reattore (perdita di acqua di raffreddamento nel cuore del reattore). Si ebbero esplosioni in serie e fuga di gas e vapori radioattivi nell'atmosfera, accompagnate dal riversamento di 4.000 metri cubi di acqua in due canali non distanti dal fiume Outaouais. Il nocciolo del reattore, distrutto, fu interrato assieme alle scorie radioattive.

13 Gennaio 1953 - (incidente unità navale nucleare) : The minesweeper USS Condor (AMS-5) is heavily damaged by fire.

27 Gennaio 1953 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Dutchess suffers an explosion while in the U.K., damaging the ship and killing one.

3 Febbraio 1953 - (incidente unità navale nucleare) Atlantic: Sabotage inquiries are under way in Devonport, U.K., after damage to the Royal Navy aircraft carriers HMS Warrior and HMS Triumph is reported.

3 Febbraio 1953 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Indomitable suffers an explosion while in Malta, killing three.

19 Febbraio 1953 - (incidente unità navale nucleare) Pacific: The USS Prichett (DD-561) and USS Cushing (DD-797) collide while operating off the coast of Korea. Both ships require dry docking in Sasebo, Japan.

5 Marzo 1953 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Termagant suffers a fire.

6 Marzo 1953 - (incidente unità navale nucleare) Pacific: A bomb dislodged from a plane landing after a combat mission over Korea bounces twice across the deck of the USS Oriskany (CV-34) and explodes, killing two and injuring 15.

7 Marzo 1953 - (incidente unità navale nucleare) Atlantic: The Egyptian minesweeper Sollum sinks during a storm off Alexandria, killing 54.

15 Marzo 1953 - Mayak Enterprise, Russia, URSS: criticità di incidente con soluzione di plutonio A criticality accident occurred in a plutonium processing facility. Plutonium separated from spent fuel rods was being processed in nitrate solution. Procedural errors in an unrecognized accumulation of 842 g of plutonium in one vessel, which became critical and brought the vessel contents to boiling. The operators transferred contents of another vessel to the first, ending the reaction. The accident was unrecognized for 2 days when one operator developed symptoms of radiation sickness. This operator had received a 1,000 rad dose, resulting in severe radiation sickness. He also sustained severe radiation burns on his legs, requiring amputation of both legs, but survived another 35 years. A second operator received a 100 rad dose; this worker and a third operator both developed radiation sickness.

17 Marzo 1953 - Knothole, Nevada Test Site, Area 4 (USA): test nucleare

24 Marzo 1953 - Knothole, Nevada Test Site, Area 4 (USA): test nucleare

4 Aprile 1953 - (incidente unità navale nucleare) Atlantic: The Turkish diesel submarine Dum lupiner (formerly USS Blower [SS-325]) sinks after colliding with the Swedish freighter Naboland in the Dardanelles. The captain of the Naboland is held by Turkish authorities in connection with the incident, and on 11 April Sweden protests his arrest.

18 Aprile 1953 - Knothole, Nevada Test Site, Area 4 (USA): test nucleare

28 Aprile 1953 - (incidente unità navale nucleare) Atlantic: The USS Bennington (CV-20) suffers an explosion off Cuba, killing 11.

13 Maggio 1953 - (incidente unità navale nucleare) Atlantic: The USS Wright (CVL-49) is hit by a target drone off Key West, Florida, killing three.

18 Maggio 1953 - (incidente unità navale nucleare) Atlantic: An unidentified fast patrol boat suffers fires and explosions in Aarhus harbor, Denmark, which slightly damage the Royal Navy vessel HMS Gay Archer, moored alongside.

20 Maggio 1953 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Coquette is in a collision.

25 Maggio 1953 - Knothole, Nevada Test Site, Area 4 (USA): test nucleare ad una altezza di 157 m.

16 Luglio 1953 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Vigo suffers a fire.

18 Luglio 1953 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Carron suffers a fire.

1 Agosto 1953 - (incidente unità navale nucleare) Atlantic: In August the USS Harder (SS-568) is towed across the Atlantic to New London, Connecticut, by the USS Tringa (ASR-16) after breaking down off the east coast of Ireland.

25 Agosto 1953 - (incidente unità navale nucleare) Atlantic: The Netherlands charges that U.S. Navy ships fired on a KLM civilian airliner over the Caribbean Sea. The U.S. State Department later reports anti-aircraft artillery shells were accidentally fired within two miles of the plane.

13 Settembre 1953 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Delight is damaged by fire in Glasgow, Scotland.

15 Settembre 1953 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Contest suffers a fire.

1 Ottobre 1953 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Diamond collides with the cruiser HMS Swiftsure during exercises.

6 Ottobre 1953 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Rattlesnake suffers a gun firing accident.

16 Ottobre 1953 - (incidente unità navale nucleare) Atlantic: The USS Leyte (CV-32) is badly damaged by an explosion and subsequent fire caused by the accidental ignition of hydraulic fluid on

a catapult while moored at Charlestown Naval Yard, Boston, killing 36. The fire takes five hours to extinguish.

28 Dicembre 1953 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Amethyst suffers a fire in its store room.

18 Gennaio 1954 - (incidente unità navale nucleare) Atlantic: The Royal Navy tanker HMS Wave Victor suffers a fire off the Devon Coast, U.K.

21 Gennaio 1954 - (incidente unità navale nucleare) Pacific: A U.S. troopship rams a U.S. Navy landing craft off Inchon, South Korea, drowning 28 Marines.

28 Febbraio 1954 - Isola artificiale sulla costa di Bikini, isole Marshall (Oceano Pacifico): test nucleare

1 Marzo 1954 - Atollo di Bikini, Oceano Pacifico: fallout atmosferico da test nucleare In 1954 the United States conducted Operation Castle, a series of nuclear tests in the Marshall Islands; the goal was to test prototypes of the first weaponized thermonuclear weapons ("emergency capability" weapons). The first shot in the series was Bravo, a test of the "Shrimp" TX-21 device, with a predicted yield of 6 megatons. The device was placed at the end of a causeway extending onto the reef 970 meters from the southwest tip of Namu island in Bikini Atoll. It was detonated at 6:45 AM on 1 March local time (18:45 28 February Universal Time). Designers had significantly underestimated the efficiency of reactions involving lithium-7 in the lithium deuteride solid fuel (one of the design innovations being tested); the actual yield was 15 megatons, 67% from fission. Additionally, shortly after the detonation the wind shifted from northward to eastward. A Japanese fishing boat, the Fukuryu Maru (Lucky Dragon) was just outside the 130-km radius restricted zone and received heavy fallout beginning about 1.5 hours after detonation. The 23 crewmembers did not recognize the falling material as hazardous and made little effort to minimize their exposure to it; some crew members tasted the fallout. Some crew members began developing radiation sickness within three days, and the entire crew developed acute radiation sickness before the boat returned to Japan on 14 March. On return to Japan, the boat's owner recognized the crew was ill and called a hospital, which referred the men for treatment the following day. One member of the Fukuryu Maru crew died of a liver disorder, a complication from radiation sickness, on 23 September 1954.

Significant fallout also fell on inhabited islands west of Bikini under U.S. jurisdiction, exposing native islanders on Rongerik, Rongelap, Ailinginae, and Utrik atolls, all of which were evacuated on 3 March. The highest doses were to the 64 inhabitants of Rongelap Atoll (about 170 km from ground zero), some of whom received 175 rads before their evacuation 44 hours after the detonation. Some reports indicate that Rongelap inhabitants (unaware of the nature of the fallout) did little to minimize exposure, including inadvertent ingestion of fallout, contributing to acute radiation injury. In addition, 37 U.S. naval personnel--21 on the USS Philip and 16 on the USS Bairoko--received beta burns from fallout particles, producing lesions which all healed without complications. Some evacuated inhabitants of downwind atolls later developed thyroid hypofunction; thyroid exposure for some who were children at time of exposure is estimated at 700-1,400 rad and at 325 rad for some adults. Those who were children at Rongelap show high frequencies of thyroid anomalies, and one 19-year old male died in 1972 of leukemia (age 1 year at time of exposure).

9 Marzo 1954 - (incidente unità navale nucleare) Pacific: An Australian destroyer rams a pier when it attempts to dock without tugs in Melbourne, Australia.

17 Marzo 1954 - (incidente unità navale nucleare) Atlantic: A U.S. Navy tank landing ship runs aground at Eleuthera Island, Bahamas

17 Marzo 1954 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Zest suffers a fire.

26 Marzo 1954 - Bikini, Isole Marshall (Oceano Pacifico): test nucleare ad una altezza di 4,2 m. . Bomba posta su una base all'interno del cratere Bravo. La più potente bomba H americana equivalente a 1.000 volte Hiroshima. La palla di fuoco misurava 6 Km. di diametro, la cappa 160 Km.. 80 milioni di tonnellate di terra e di corallo vennero vaporizzate e crearono un cratere di 1.950 metri di diametro e 75 di profondità. A 48 Km. dall'esplosione il personale addetto ricevette una quantità di 2 reims, l'equivalente di 100 radiografie.

25 Aprile 1954 - Bikini, Isole Marshall (Oceano Pacifico): test nucleare. Bomba fatta esplodere su una chiatta

13 Maggio 1954 - (incidente unità navale nucleare) Pacific: The Japanese fishing boat Kine-Maru sustains damage as a result of shots fired by vessels of the Netherlands, Australia, and New Zealand during target practice in "Area George." The Japanese Ministry of Foreign Affairs later presents a claim against the United States on the grounds that Japan had permitted the use of "Area George" to U.S. forces, but had not approved its use by other countries. The U.S. State Department rejects the claim, saying that "Area George" is located on the high seas and that its use does not require permission from the Japanese government.

26 Maggio 1954 - (incidente unità navale nucleare) Atlantic: The USS Bennington (CV-20) is damaged by an explosion and fire off Newport, Rhode Island, killing 103 and injuring 201.

27 Maggio 1954 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Curzon runs aground and is later refloated.

1 Luglio 1954 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Vigo suffers a fire.

14 Luglio 1954 - (incidente unità navale nucleare) : The Royal Navy tanker HMS Wave Commander is involved in a collision.

3 Settembre 1954 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Eagle is damaged by an aviation fuel-tank blast at the Devonport dock, killing one.

16 Settembre 1954 - (incidente unità navale nucleare) Atlantic: Several weeks before its first sea trials, a small steam pipe in the reactor compartment of the USS Nautilus (SSN-571) bursts, filling the area with steam during a test of the steam system while the ship is at the Electric Boat Shipyard in Groton, Connecticut. The test is part of a quality control effort to check the adequacy of the shipyard's inspection system. The incident initially appears to be minor. There are slight personnel injuries and no radiation hazards. However, subsequent investigation shows the situation is more serious. Specifications called for seamless pipe, but ordinary stanchion pipe had been used. All suspect pipe is ripped out and the mistake leads to more stringent quality control measures.

8 Ottobre 1954 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Chevron is involved in a minor collision.

8 Ottobre 1954 - (incidente unità navale nucleare) : The USS Laffey (DD-724) hits and sinks the distressed yacht Able Lady while attempting rescue.

24 Ottobre 1954 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyers HMS Battleaxe and HMS Scorpion collide during an exercise in the Bay of Biscay. The Battleaxe suffers a five-foot-hole in its bow, but is able to return to Plymouth Sound, U.K., unassisted.

27 Ottobre 1954 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigates HMS Relentless and HMS Vigilant collide off western Scotland during night exercises.

31 Ottobre 1954 - (incidente unità navale nucleare) Atlantic: The USS Norris (DDE-859) rams the superstructure of the USS Bergall (SS-320) during war games off Norfolk, Virginia. The Norris suffers flooding in five of its compartments and the Bergall suffers damage to its superstructure. Both proceed to port for repairs.

9 Novembre 1954 - (incidente unità navale nucleare) Atlantic: A Canadian Navy ship collides with a ferry in Halifax, Canada, killing three.

12 Dicembre 1954 - (incidente unità navale nucleare) Atlantic: A Norwegian submarine is damaged by an explosion at Bergen, Norway.

15 Dicembre 1954 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Talent, undergoing a refit, is swept out of a Chatham dockyard by an inrush of water, due to a mistake in estimating the size of the tide.

Metà anni '50 - (incidente unità navale nucleare) Undated but seemingly in the 1950s or early 1960s: the USS Nautilus (SSN-571) suffers an involuntary reactor shutdown which took 24 hours to overcome, during which she only had steerage way on the surface with her diesel engines.

4 Gennaio 1955 - (incidente unità navale nucleare) Atlantic: The USS Monterey (CVL-26) is slightly damaged after colliding with a freighter near the mouth of the Mississippi River.

7 Gennaio 1955 - (incidente unità navale nucleare) Atlantic: Three U.S. Navy dock-landing craft capsize in heavy seas off Beaufort, North Carolina. Faulty steering gear blamed.

12 Gennaio 1955 - (incidente unità navale nucleare) Atlantic: The USS Power (DD-839) and USS Warrington (DD-843) collide during night exercises off Puerto Rico.

14 Gennaio 1955 - (incidente unità navale nucleare) Atlantic: The USS Tench (SS-417) is grounded off Cape Henry Lighthouse, Virginia.

22 Gennaio 1955 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Flint Castle experiences a fire.

Febbraio 1955 - La nave appoggio Fori-Rosalie della Royal Navy affonda nell'Atlantico, con 1500 recipienti contenenti ciascuno una tonnellata di residui atomici, a 1.600 Km dalle coste inglesi e a 2.000 metri di profondità.

21 Febbraio 1955 - (incidente unità navale nucleare) Pacific: The USS Pomodon (SS-486) is damaged by an explosion and fire caused by excess hydrogen formation during battery charging in the San Francisco Naval Yard, California, killing five.

11 Marzo 1955 - (incidente unità navale nucleare) Pacific: A U.S. Navy tank landing ship rams a trawler in Puget Sound, Washington, killing three.

12 Marzo 1955 - Nevada Test Site (USA): test nucleare

18 Marzo 1955 - (incidente unità navale nucleare) Atlantic: The USS Cassin Young (DD-793) is driven aground by high winds at Fall River, Massachusetts.

18 Marzo 1955 - (incidente unità navale nucleare) Atlantic: The USS General R.E. Callan (AP-139) runs aground at Red Hook Flats, New York Harbor. News reports are censored for 24 hours.

5 Maggio 1955 - Nevada Test Site, Area 1 (USA): test nucleare ad una altezza di 150 m.

10 Maggio 1955 - (incidente unità navale nucleare) Pacific: A small military ship (of unspecified nationality) explodes at Kaohsiung, Taiwan, killing 49.

11 Maggio 1955 - (incidente unità navale nucleare) Atlantic: The USS Nautilus (SSN-571) suffers a small leak in a fresh water line in the steam plant as it leaves on its shakedown cruise from Groton, Connecticut, forcing the ship to return to port for quick repairs. The Navy says the leak did not involve the reactor.

31 Maggio 1955 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Northumbria is involved in a collision.

2 Giugno 1955 - (incidente unità navale nucleare) Atlantic: A Yugoslavian naval vessel sinks in the Adriatic Sea, killing 26.

17 Giugno 1955 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Sidon sinks after a torpedo explosion in the forward torpedo compartment while the ship is in Portland harbor, U.K., killing 13.

9 Luglio 1955 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Sturdy suffers an explosion.

14 Luglio 1955 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Blake suffers a fire.

19 Luglio 1955 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Chevron is involved in a collision.

27 Luglio 1955 - (incidente unità navale nucleare) Atlantic: The Danish diesel submarine Saelen is gutted by fire in Copenhagen.

14 Agosto 1955 - (incidente unità navale nucleare) Atlantic: The Royal Navy battleship HMS King George V runs aground while being towed into the Firth of Clyde, Scotland.

26 Settembre 1955 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Hermes loses power when a marking buoy wedges in a propeller bracket. The ship is towed to Belfast, Northern Ireland.

7 Ottobre 1955 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Venus suffers engine room damage.

19 Ottobre 1955 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Ceylon suffers a fire.

19 Ottobre 1955 - (incidente unità navale nucleare) Atlantic: The USS Wisconsin (BB-64) is grounded for one hour in the East River, New York Harbor.

31 Ottobre 1955 - (incidente unità navale nucleare) Atlantic: A Soviet cruiser hits a mine and sinks sometime in October. Conflicting reports described in the New York Times of 25 April 1956 place the sinking in the Black and Baltic Seas. Possibly the ship is an Italian warship given to the Soviet Union as war reparations, called the Novosibirsk.

31 Ottobre 1955 - (incidente unità navale nucleare) Atlantic: The USS English (DD-696) and the USS Wallace L. Lind (DD-703) collide in heavy seas during antisubmarine exercises off Norfolk, Virginia. The English has 31 feet of its bow bent and broken off and the Lind suffers an eight-foot hole. Both head for Norfolk under escort.

11 Novembre 1955 - (incidente unità navale nucleare) Pacific: The USS Boyd (DD-544) is towed to port after striking a Japanese freighter off San Diego, California.

12 Novembre 1955 - (incidente unità navale nucleare) Pacific: A U.S. Navy plane crashes into the USS Hopewell (DD-681) during maneuvers off San Diego, California, killing three fliers and two sailors.

14 Novembre 1955 - (incidente unità navale nucleare) Atlantic: The radar ship USS Searcher (AGR-4) is damaged by explosions and fire off Cape May, New Jersey, killing three.

22 Novembre 1955 - (incidente unità navale nucleare) Atlantic: Heavy winds damage six U.S. Navy destroyers moored at Newport, Rhode Island.

23 Novembre 1955 - (incidente unità navale nucleare) Atlantic: Six sailors are killed as a result of a jet landing mishap on the deck of the USS Ticonderoga (CV-14) in the Mediterranean Sea.

29 Novembre 1955 - Idaho, USA. Partial meltdown. Operator error led to a partial core meltdown in the experimental EBR-I breeder reactor, resulting in temporarily elevated radioactivity levels in the reactor building and necessitating a significant repair.

4 Dicembre 1955 - (incidente unità navale nucleare) Atlantic: A British troop ship is blown aground by heavy winds in the River Clyde, Scotland.

4 Gennaio 1956 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Venus suffers a fire.

6 Gennaio 1956 - (incidente unità navale nucleare) Atlantic: The USS Basilone (DD-824) runs aground near Hampton Roads, Virginia.

9 Gennaio 1956 - Kirtland Air Force Base, New Mexico, USA. An incident involving a B-36 bomber carrying one or more nuclear weapons occurred on January 9, 1956, at Kirtland AFB in New Mexico, according to a February 1991 report by the U.S. Environmental Protection Agency

(EPA). The report, however, provides no further details on the type of weapon involved or of any damage to the weapons onboard.

20 Gennaio 1956 - (incidente unità navale nucleare) Atlantic: The USS James V. Forrestal (CVA-59) collides with the USS Pinnacle (MSO-462) at Norfolk, Virginia, slightly damaging the Pinnacle.

21 Gennaio 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Artemis collides with a motor fishing vessel off the Isle of Wight in the English Channel. The submarine is undamaged and continues on exercises.

23 Gennaio 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Scorpion crashes into the Londonderry, Northern Ireland, dockside.

25 Gennaio 1956 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Mutine suffers a fire.

27 Gennaio 1956 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Puma experiences a fire.

4 Febbraio 1956 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Scorcher is damaged in a collision.

10 Febbraio 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Chieftain collides with the naval tanker HMS Blue Ranger in foul weather while en route from Malta to Beirut, Lebanon, and suffers damage to its bows.

21 Febbraio 1956 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Eastbourne suffers an explosion.

10 Marzo 1956 - Mar Mediterraneo. Un bombardiere B-47 trasportante due capsule nucleari, racchiuse nei loro involucri, scompare sopra il Mar Mediterraneo. L'aereo, in volo diretto dalla base aerea di MacDill a Tampa, Florida, ad una base aerea straniera segreta, si perde con il suo equipaggio. Dopo il decollo, il B-47 era programmato per due rifornimenti di carburante in volo prima di raggiungere la sua destinazione finale. Il primo rifornimento fu completato con successo, ma l'aereo non contattò mai il secondo aereo cisterna per il rifornimento, sopra il Mar Mediterraneo. Nonostante una ricerca estesa, nessuna traccia dell'aereo, delle capsule nucleari, o dell'equipaggio, fu trovata.

11 Marzo 1956 - (incidente unità navale nucleare) Pacific: The USS Columbus (CA-74) and USS Floyd B. Parks (DD-884) are damaged after colliding off Luzon, Philippines.

18 Marzo 1956 - (incidente unità navale nucleare) Atlantic: Fifteen ships of a U.S. destroyer fleet break their moorings during a storm off Newport, Rhode Island.

18 Marzo 1956 - (incidente unità navale nucleare) Atlantic: The USS Willis A. Lee (DL-4) runs aground off Jamestown, Rhode Island.

22 Aprile 1956 - (incidente unità navale nucleare) Atlantic: The USS Nautilus (SSN-571) is snared in the nets of a fishing vessel off the New Jersey coast 140 miles southeast of New York, while running at a depth of 150 feet. The submarine nearly drags the vessel under water, but the Nautilus

is unaware of the mishap, does not surface, and continues to Groton, Connecticut. The estimated damage is \$1,300 to each vessel.

26 Aprile 1956 - (incidente unità navale nucleare) Indian: The USS Remy (DD-688) runs aground in the Persian Gulf.

28 Aprile 1956 - (incidente unità navale nucleare) Atlantic: The USS Nautilus (SSN-571) suffers a fire caused by a welder's torch, while berthed at New London, Connecticut, during repair of damage caused by snaring of a fishing net on 22 April. The blaze ignites cork insulation and burns paint from the hull. The Navy reports that damage from the fire, the third to break out on the Nautilus, is slight.

7 Maggio 1956 - (incidente unità navale nucleare) Atlantic: The USS Eaton (DD-510) and USS Wisconsin (BB-64) are badly damaged after a collision in fog off Virginia. Commander Varley of the Eaton is later court-martialed and found negligent.

8 Maggio 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Redpole collides with a yacht in Copenhagen, Denmark.

10 Maggio 1956 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Talent is involved in a collision.

6 Giugno 1956 - Atollo d'Enewetak (Oceano Pacifico): test nucleare ad una altezza di 2,1 m.

25 Giugno 1956 - Bikini, Isole Marshall (Oceano Pacifico): test nucleare. Bomba H al livello del mare

2 luglio 1956 - Eberiru island, Atollo d'Enewetak (Oceano Pacifico): test nucleare ad una altezza di 100 m.

8 luglio 1956 - Eberiru island (Oceano Pacifico): test nucleare al suolo, bomba situata nel cratere Ivy.

27 Luglio 1956 - Lakenheath in Suffolk, Gran Bretagna. Un bombardiere B-47 slitta sulla pista e va a colpire un deposito contenente sei bombe nucleari. Si scatena un colossale incendio.

"L'Inghilterra orientale stava per diventare un deserto. E' stato l'eroismo dei militari che hanno sacrificato la vita nello spegnere l'incendio e la fortuna ad impedire la catastrofe" dichiarerà anni dopo ad un giornali-sta l'ex comandante della base. A B-47 crashed into a storage igloo spreading burning fuel over three Mark 6 nuclear bombs at RAF Lakenheath. A bomb disposal expert stated it was a miracle exposed detonators on one bomb did not fire, which presumably would have released nuclear material into the environment

4 Agosto 1956 - (incidente unità navale nucleare) Pacific: The USS Windham Bay (CVE-92) is heavily damaged by fire while in Alameda, California.

19 Agosto 1956 - (incidente unità navale nucleare) Atlantic: The experimental sodium-cooled nuclear reactor of the USS Seawolf (SSN-575) suffers a failure in the steam plant during a full power test run while the new ship is at Groton, Connecticut. A leak of sodium-potassium alloy being used as the third fluid in the steam generator aggravates stress corrosion in the system, causing two cracks in steam piping and a leak in a superheater. Makeshift repairs permit the Seawolf to complete its initial sea trials on reduced power in February 1957. Due to the difficulties of running

a sodium-cooled reactor, the Navy decides to replace the Seawolf's sodium-cooled reactor with a water-cooled reactor, and use only water-cooled designs in the future.

22 Settembre 1956 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Decoy suffers an explosion.

29 Settembre 1956 - (incidente unità navale nucleare) : A shell explodes aboard the USS Buck (DD-761), killing one.

29 Settembre 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy minesweepers HMS Broadly, HMS Etchingham, and HMS Bisham are extensively damaged by fire at Portsmouth harbor, U.K.

6 Ottobre 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Keppel collides with a Torpoint ferry, near Plymouth, U.K.

6 Ottobre 1956 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Orwell is involved in a collision.

13 Ottobre 1956 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Anchorite runs aground in Rothesay Bay, U.K., and is refloated two days later.

15 Ottobre 1956 - (incidente unità navale nucleare) Atlantic: During the height of the Suez crisis the USS Nautilus (SSN-571) accidentally fires two dummy practice torpedoes at a British merchantman during naval maneuvers in European waters. The Nautilus mistakes the ship for an aircraft carrier on its sonar.

23 Ottobre 1956 - (incidente unità navale nucleare) Atlantic: The USS Antietam (CVS-36) is grounded for six hours off Brest, France.

22 Novembre 1956 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Scorchers suffers a fire during exercises.

1957/1965 - Apollo, Pennsylvania, USA. Fra il 1957 e il 1965, 100 kg. di uranio 235 spariscono dal centro di riciclaggio nucleare di Apollo. Il materiale permette di fabbricare più di una bomba atomica. Il presidente della società aveva delle relazioni con Israele, ma il mistero non è mai stato risolto.

1957 - Nevada Test Site (USA): test nucleare ad una altezza di circa 200 m.

3 Gennaio 1957 - (incidente unità navale nucleare) : The Royal Navy coastal minesweeper HMS Ilmington suffers a fire.

7 Marzo 1957 - (incidente unità navale nucleare) Atlantic: The USS Mission San Francisco (AO-123) suffers explosions and fires when it collides with the Liberian freighter Elna II in the Delaware River near New Castle, Delaware, killing ten.

21 Aprile 1957 - Mayak Enterprise, Russia, URSS: criticità di incidente con soluzione di uranio The accident occurred in a glovebox assembly within which uranium solution was precipitated into vessels. For several reasons, an unexpectedly large amount of uranium precipitate accumulated in a filter receiving vessel. The operator at the glovebox observed the filter vessel to bulge prior to

ejection of gas and some solution and precipitate from the vessel within the glovebox. The operator gathered some precipitate by (gloved) hand and returned it to the vessel; within seconds she began to feel ill. It was not recognized that a criticality excursion had occurred until the radiation control officer made measurements 15-20 minutes later. The female operator received a whole body dose of 3,000 rad or 4,600 rad, developed nausea, vomiting, headache, and fatigue within 20-30 minutes, and died 12 days later. The other five operators in the room at the time received doses over 300 rad, and five other individuals sustained doses up to 100 rad; the five operators developed radiation sickness (one report suggests all ten did). All ten (3 male, 7 female) recovered.

15 Maggio 1957 - (incidente unità navale nucleare) Pacific: A U.S. Navy A3D Skywarrior aircraft crashes while landing on the USS Bon Homme Richard (CVA-31) off San Diego, California, killing three.

15 Maggio 1957 - (incidente unità navale nucleare) Atlantic : The USS Franklin D. Roosevelt (CVA-42) reportedly hits a submerged object off Florida. The object is not thought to be a submarine. The Navy later denies that the carrier had hit an object, claiming instead that a propeller had broken.

20 Maggio 1957 - (incidente unità navale nucleare) Atlantic : The USS Antietam (CVS-36) crashes into a river wharf in New Orleans, Louisiana. The wharf is heavily damaged, while damage to the carrier is light.

21 Maggio 1957 - (incidente unità navale nucleare) Atlantic : A U.S. Navy experimental X-1 submarine is damaged by a blast at the Portsmouth Naval Shipyard. There are no injuries.

22 Maggio 1957 - Base dell'Air Force di Kirtland, New Mexico, USA. Una bomba nucleare senza la sua capsula fissile cade dal vano bombe di un B-36 ad un'altitudine di circa 500 metri ed esplose all'impatto. Il bombardiere stava trasportando entrambe le bombe e la loro capsula fissile, che era stata rimossa per sicurezza, dalla base di Biggs dell'Air Force in Texas alla base di Kirtland in New Messico. Sebbene i paracaduti attaccati alla bomba si fossero aperti durante la sua caduta, essi non funzionarono correttamente. La bomba nucleare fu completamente distrutta nella detonazione che accadde a circa 7 Km. a sud della torre di controllo di Kirtland e mezzo Km. ad ovest del terreno riservato della Sandia Base, creando un cratere d'esplosione di circa 8 metri di diametro e 4 metri di profondità. I frammenti della bomba e i detriti furono dispersi su di un'area di oltre 1.500 m.. Fu condotto un esame radiologico dell'area, ma non rilevò contaminazione radioattiva oltre l'orlo del cratere.

28 maggio 1957 - Nevada Test Site, Area 7c (USA): test nucleare ad una altezza di 150 m.

8 Giugno 1957 - (incidente unità navale nucleare) Pacific: Eleven depth charges explode prematurely off the stern of the USS Whitehurst (DE-634) 18 miles off Pearl Harbor, endangering the lives of a Hollywood movie cast on board to shoot a movie scene.

19 Giugno 1957 - (incidente unità navale nucleare) Atlantic: A high-pressure steam line explodes aboard the USS Franklin D. Roosevelt (CVA-42) off Jacksonville, Florida, killing two and injuring five.

24 giugno 1957 - Nevada Test Site, Area 5 (USA): test nucleare ad una altezza di 210 m.

6 Luglio 1957 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Eagle suffers a fire.

13 Luglio 1957 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Redpole is involved in a collision.

15 Luglio 1957 - (incidente unità navale nucleare) : A Royal Navy destroyer depot ship suffers a fire.

18 Luglio 1957 - (incidente unità navale nucleare) Atlantic: A TNT device aboard the USS Somersworth (PCER-849) explodes off Montauk Point, New York, killing three.

25 Luglio 1957 - (incidente unità navale nucleare) Atlantic: The USS Mauna Loa (AE-8) suffers a fire off New York. The fire is extinguished before it reaches the ship's 3,500-ton cargo of explosives.

28 Luglio 1957 - Oceano Atlantico. Un aereo da trasporto C-124 con problemi meccanici abbandona due armi nucleari, senza la loro capsula di materiale fissile, al largo della costa orientale degli Stati Uniti. Il C-124, sulla rotta dalla base aerea di Dover a Delaware, perde potenza nei motori numero uno e due. L'equipaggio è certo che la quota non può essere mantenuta con il peso delle bombe a bordo e decide di abbandonare il carico. Anche se nessuna bomba detona, si presume che entrambe le bombe si siano danneggiate nell'impatto con la superficie dell'oceano e che siano affondate quasi istantaneamente. Nessuna delle due bombe, né detriti sono mai stati trovati. Il C-124 atterra per sicurezza su un campo d'aviazione vicino ad Atlantic City, nel New Jersey, con la bomba rimanente e la testata nucleare a bordo.

7 Agosto 1957 - (incidente unità navale nucleare) Atlantic: The USS Cobbler (SS-344) and USS Tusk (SS-426) are slightly damaged after an underwater collision during maneuvers off New Jersey.

7 agosto 1957 - Nevada Test Site (USA): test nucleare ad una altezza di 500 m.

19 Agosto 1957 - (incidente unità navale nucleare) Atlantic: The USS Wisconsin (BB-64) scrapes its bottom near a sea buoy off Cape Henry, Virginia, during a storm.

25 Agosto 1957 - (incidente unità navale nucleare) Pacific: The USS Lenawee (APA-195) and USS Wantuck (APD-125) collide in the Pacific, killing one.

28 Agosto 1957 - (incidente unità navale nucleare) Atlantic: The Peruvian diesel submarine Iquique is freed from a sand bar where it had run aground during trials in the Long Island Sound, New York.

29 Agosto 1957 - (incidente unità navale nucleare) : The Royal Navy coastal minesweeper HMS Badminton is in a collision.

1 Settembre 1957 - (incidente unità navale nucleare) Arctic: In the first few days of September, the USS Nautilus (SSN-571) suffers damage to two periscopes while rising under ice conditions during an exploratory trip under the Arctic icepack. The Nautilus returns from under the icepack to the open sea to perform repairs on the surface. It takes 12 hours in rough seas, freezing temperatures, and gale winds to fix one periscope. The other is damaged beyond repair.

5 Settembre 1957 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Decoy runs aground.

11 Settembre 1957 - (incidente unità navale nucleare) Atlantic: The Royal Navy cruiser HMS Blake suffers an explosion and fire while in Glasgow, Scotland.

11 Settembre 1957 - Denver, Colorado, USA – Fire, release of nuclear materials. A fire began in a materials handling glove box and spread through the ventilation system into the stack filters at the Rocky Flats weapons mill 27 kilometres (17 mi) from Denver, Colorado. Plutonium and other contaminants were released, but the exact amount of which contaminants is unknown; estimates range from 25 mg to 250 kg.

12 Settembre 1957 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) suffers a second fire while in dry dock in Boston, Massachusetts, causing minor damage.

14 Settembre 1957 - Nevada Test Site (USA): test nucleare

20 Settembre 1957 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Taciturn collides with a merchant ship during exercises off Brighton, U.K., in the English Channel. No damage is reported.

21 Settembre 1957 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Delight is rammed by the Clydetug Forager at the Princess Pier, Greenock, Scotland.

26 Settembre 1957 - (incidente unità navale nucleare) Atlantic: A U.S. Navy A3D Skywarrior crashes while attempting to land on the USS Forrestal (CVA-59) during NATO exercises in the Norwegian Sea.

29 Settembre 1957 - (incidente unità navale nucleare) Atlantic: The USS Purdy (DD-734) and the British trawler British Columbia collide off The Netherlands, sinking the trawler. A small hole is punched in the Purdy's hull above the waterline.

29 Settembre 1957 - Kyshtym, Complesso Nucleare i Mayak, (Unione Sovietica) (scala Ines 6). In una fabbrica di armi nucleari negli Urali e stoccaggio di scorie radioattive, una cisterna contenente scorie radioattive prende fuoco ed esplose, contaminando migliaia di chilometri quadrati di terreno. Una nube, contenente più di 2 milioni di curie di prodotti radioattivi, si solleva per più di un chilometro in altezza (la metà di quanto rilasciato a Chernobyl). Il rilascio esterno di radioattività avviene a seguito di un malfunzionamento del sistema di refrigerazione di una vasca di immagazzinamento di prodotti di fissione ad alta attività. Vengono esposte alle radiazioni circa 270.000 persone. Si stimano per le conseguenze dell'incidente oltre 200 morti. Vengono evacuate 10.000 persone ed interdetta una zona di 250 kmq. Nella zona vengono installati cartelli stradali con le scritte: "Chiudete i finestrini e guidate il più velocemente possibile" Le prime informazioni dell'incidente, in quanto classificato segreto di stato, si hanno nel 1976 dal biologo russo Jaurès Medvedev, riparato in Inghilterra. Nel 2000, il quotidiano francese Libération rivela che i materiali radioattivi stanno riemergendo in superficie ingiallendo le acque sotterranee.

7/12 Ottobre 1957 -Sellafield (Gran Bretagna) (scala Ines 5). Nel complesso nucleare di Windscale in Gran Bretagna, dove si produce plutonio per scopi militari, un incendio nel nocciolo di un reattore a gas-grafite (GCR) genera una nube radioattiva imponente, pari al 1/10 della bomba atomica di Hiroshima. I principali materiali rilasciati sono gli isotopi radioattivi di xenon, iodio, cesio e polonio. La nube attraversa l'Europa intera. Sono stati ufficializzati soltanto 300 morti per

cause ricondotte all'incidente (malattie, leucemie, tumori), ma il dato potrebbe essere sottostimato. La radioattività su Londra giunse fino a 20 volte oltre il valore naturale, e Londra dista da Windscale 500 km. Il consumo di latte venne vietato in un raggio di 50 km (una zona di 500 kmq). Nel 1983 un documentario della televisione britannica rivela che nel villaggio di Seascale, non lontano da Sellafield, il tasso dei bambini colpiti da cancro è dieci volte più elevato che la media nazionale. Secondo il giornale Le Monde del 2 gennaio 1988, il vecchio primo ministro conservatore britannico, Harold Macmillan, aveva ordinato di insabbiare un rapporto dettagliato sulle cause di un grave incendio avvenuto all'interno di una fabbrica per il ritrattamento delle scorie nucleari di Windscale

9 Ottobre 1957 - (incidente unità navale nucleare) Pacific : The USS Mission San Miguel (AO-129) runs aground on a reef in the mid-Pacific

11 Ottobre 1957 - Homestead Air Force Base, Homestead, Florida, USA. Un bombardiere B-47 si schianta con una bomba di cui la carica nucleare era disinnescata. L'aereo brucia, esplose la carica classica. A B-47 bomber carrying a nuclear weapon and its separated fissile core crashed shortly after takeoff. The aircraft crashed in an inhabited area approximately 3,800 feet from the end of the runway, enveloping the nuclear weapon and its fissile core in flames which burned and smoldered for approximately four hours. Although two small explosions occurred during the burning, the weapon core and its carrying case were recovered intact and only slightly damaged by the heat. Approximately one-half of the weapon remained and all its major components were recovered but damaged.

23 Ottobre 1957 - (incidente unità navale nucleare) : The USS Forrestal (CVA-59) is slightly damaged after a collision with an oiler at sea.

16 Novembre 1957 - (incidente unità navale nucleare) Atlantic: The Washington Post reports that the reactor compartment of the USS Nautilus (SSN-571) flooded several days ago after a small leak developed while the submarine was in port in Connecticut. The leak was due to the malfunctioning of a valve, and according to the Navy caused no radioactive contamination or damage to the power plant.

11 Dicembre 1957 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Alcaston loses power.

12 Dicembre 1957 - (incidente unità navale nucleare) Atlantic: The USS Manley (DD-940) is badly damaged in heavy seas in the eastern Atlantic.

1958 - Christmas Island (Australia - Oceano Pacifico): test nucleare. Bomba H Inglese

1958 - Zona Urali (Urss). Catastrofe nucleare a causa dell'esplosione di un deposito di scorie radioattive. Centinaia di morti. Decine di migliaia di contaminati. Migliaia di km. ancora oggi recintati.

2 Gennaio 1958 - Mayak Enterprise, Russia, URSS: Criticità di incidente con soluzione di uranio Following the criticality accident at the same facility in 1957, an apparatus had been constructed to test criticality phenomena in fissile solutions. A 400-liter tank on a platform was used for measurements involving solutions; after each experiment, the tank was drained into individual 6-liter containers of favorable geometry. On this occasion, the tank contained uranyl nitrate solution (90% U-235) and was being drained for another experiment. After filling several 6-liter containers, operators decided to circumvent the standard procedure to save time. Three operators unbolted the

tank and lifted it to pour directly into containers. The presence of the operators provided sufficient neutron reflection to cause a criticality excursion, producing a flash of light and ejecting solution as high as the ceiling, 5 meters above the tank. The operators dropped the tank and, along with a fourth operator in the room, left the area for decontamination and transport to the hospital within 2 hours of the accident, having already exhibited symptoms of acute radiation syndrome. The three operators who lifted the tank (all men) incurred fatal doses of radiation, with respective doses of 7,000-12,500 rad (died on day 6), 7,600-13,100 rad (died on day 7), and 3,000-4,800 rad (died on day 10). The fourth operator, a woman, sustained a dose of 700-1,200 rad but recovered from radiation sickness. She suffered chronic health problems afterwards, developing cataracts in both eyes and becoming blind years later, eventually dying of lung cancer in 1982.

4 Gennaio 1958 - Hamburg, New York, USA. Un treno merci diretto a est deraglia nella ferrovia Nickel Plate. Cinque automobili che trasportano "materiale classificato AEC" sono coinvolte nell'incidente. Secondo il rapporto della Commissione indagante non c'è stato alcun danno al materiale e alcun ferito tra il personale AEC che scortava il carico.

10 Gennaio 1958 - (incidente unità navale nucleare) Pacific: A plane catapult explodes aboard the USS Kearsage (CVA-33) off Yokosuka, Japan, killing three.

14 Gennaio 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy boom defense vessel HMS Barcombe runs aground off the Island of Oronsay, Argyll, Scotland.

18 Gennaio 1958 - (incidente unità navale nucleare) : The USS Essex (CVA-9) is damaged by fire at sea.

31 Gennaio 1958 - (incidente unità navale nucleare) : A bomber explodes on the flight deck of the USS Hancock (CVA-19), killing two.

31 Gennaio 1958 - Base straniera non identificata. Un bombardiere B-47 con una bomba nucleare in configurazione d'attacco sta compiendo un decollo simulato durante un'esercitazione quando la ruota posteriore sinistra viene a mancare, provocando l'urto della coda contro la pista e la rottura del serbatoio del carburante. L'aereo prende fuoco e brucia per sette ore. Sebbene l'alto esplosivo non detoni, si ha contaminazione nell'area immediatamente circostante allo schianto. In seguito all'incidente, le esercitazioni di allertamento vennero temporaneamente sospese. Lo schianto può aver avuto luogo in una base aerea USA a Sidi Slimane, nel Marocco Francese. Un successivo documento dell'Air Force riportò che "l'inquinamento dei rottami era alto, ma che sull'area circostante era basso". Un servizio del New York Times dell'8 giugno 1960, menziona un incidente di bomba nucleare che era accaduto "in un campo degli Stati Uniti vicino Tripoli, in Libia", senza fornire ulteriori dettagli.

Febbraio 1958 - Luogo ed aereo sconosciuti. An unidentified aircraft crashed "on base" while carrying a MK-7 training weapon in February, 1958. Aircraft wreckage and weapons parts were scattered over an area approximately 250 feet wide by 0.25 miles long. The largest piece of weapon recovered was located with part of the plane's tail section.

Febbraio 1958 - Base aerea Greenham Common, Gran Bretagna. Un bombardiere B-47 che sta subendo un guasto al motore durante il decollo espelle due cisterne piene di 6.500 litri di carburante da un'altezza di circa 2.500 m.: esse non cadono nell'area designata per un impatto sicuro ed esplodono a 20 m. dietro un B-47 parcheggiato e caricato con bombe nucleari. Il fuoco che ne deriva brucia per 16 ore e causa la deflagrazione delle alte cariche esplosive di almeno una bomba atomica. L'esplosione rilascia materiale radioattivo, includendo uranio polverizzato e ossido di

plutonio, dei quali almeno 10-20 grammi vengono trovati intorno alla base. Inoltre un hangar adiacente è gravemente danneggiato e altri aerei vicini vengono spruzzati con pompe d'acqua per prevenirne l'incendio a causa dell'intenso calore alimentato dal combustibile per jet e dal magnesio del B-47. Il fuoco uccide due persone, ne ferisce altre otto, e distrugge il bombardiere. L'Air Force non ha mai ammesso ufficialmente che armi nucleari fossero coinvolte in questo incidente. L'Air Force e il ministro della difesa inglese furono d'accordo nel 1956 di negare l'esistenza delle bombe nucleari in qualsiasi incidente che coinvolgeva le armi nucleari statunitensi collocate in Inghilterra. Nel 1985, il governo inglese riferì che l'incidente coinvolse un B-47 parcheggiato colpito da un B-47 in fase di decollo in un esercizio di addestramento, ma omise ogni riferimento circa il successivo incendio.

4 Febbraio 1958 - (incidente unità navale nucleare) Atlantic: The Swedish diesel submarine Illern sinks in a shipyard, Malmo, Sweden.

5 Febbraio 1958 - Savannah River, Georgia, USA. Un'arma nucleare senza la capsula nucleare fissile viene perduta in seguito ad una collisione a mezz'aria. Un bombardiere B-47 trasportante un'arma nucleare senza il suo nucleo fissile, si scontra con un aereo F-86 vicino a Savannah, in Georgia. Dopo tre tentativi senza successo per far scendere l'aereo alla base Hunter in Georgia, l'arma viene gettata via per evitare il rischio di un'alta detonazione esplosiva nella base stessa. L'arma viene rilasciata in mare a diverse miglia dalla foce del Savannah River a Wassaw Sound al largo di Tybee Beach, ma il preciso punto dell'impatto rimane sconosciuto. Gli alti esplosivi dell'arma non esplodono nell'impatto. Una ricerca successiva, su un'area di 5 km. quadrati, impiegando dispositivi subacquei e sonar, non riesce a trovare l'arma. La ricerca viene sospesa il 16 aprile 1958, e la bomba viene considerata irrimediabilmente persa. La migliore stima della posizione della bomba, annota un resoconto del Dipartimento della Difesa, "è stata determinato essere 31 gradi 54' e 15'' a nord, 80 gradi 54' e 45'' ovest". Il B-47 era in una missione di combattimento simulata dalla base dell'Air Force di Homestead in Florida.

12 Febbraio 1958 - (incidente unità navale nucleare) : A rocket propelled antisubmarine weapon backfires aboard the USS Eaton (DD-510), killing one.

16 Febbraio 1958 - (incidente unità navale nucleare) Pacific: The fuel supply submarine USS Guavina (ASSO-362) runs aground in high winds and foul weather after dragging its anchor in San Salvador, El Salvador.

27 Febbraio 1958 - (incidente unità navale nucleare) Atlantic: The USS Tripoli (CVU-64) is towed to Bremerhaven, West Germany, after running aground in the Weser estuary.

3 Marzo 1958 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Decoy suffers a fire.

11 Marzo 1958 - Mars Bluff, Carolina del Sud - USA. Una bomba atomica è sganciata per errore e cade in un giardino. Esplose la carica classica. Viene distrutta la casa e gli abitanti vengono gravemente feriti. Il cratere provocato è di 20,5 m. di diametro e di 10,5 m. di profondità. A B-47E accidentally jettisoned an unarmed nuclear weapon without its fissile core at 15,000 feet, which impacted in a sparsely populated area 6-1/2 miles east of Florence, South Carolina. The bomb's high explosive material exploded on impact, causing property damage and several injuries. The aircraft, which was heading to an undisclosed overseas base, returned to Hunter Air Force Base in Georgia without further incident. Numerous accounts of the accident describe the bomb falling in the garden of Mr. Walter Gregg in Mars Bluff, South Carolina. The high explosive detonation virtually destroyed his house, creating a crater 50-70 feet in diameter and 25-30 feet deep. It caused

minor injuries to Mr. Gregg and five members of his family, and damaged five other houses as well as a church. Following the accident, Air Force crews were ordered to "lock in" their nuclear bombs, which reduced the possibility of accidental drops but increased the danger during a plane crash.

1 Aprile 1958 - (incidente unità navale nucleare) Atlantic: The USS Corregidor (CVU-58) cracks its hull in a storm off the Azores.

2 Aprile 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy fleet supply ship HMS Fort Duquesne suffers a fire.

17 Aprile 1958- (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Bulwark is involved in a collision in the Suez Canal.

24 Aprile 1958 - (incidente unità navale nucleare) : The USS Yarnall (DD-541) is damaged by a dummy torpedo fired by a submarine during practice.

25 Aprile 1958 - (incidente unità navale nucleare) Atlantic: The USS Nautilus (SSN-571) springs a small saltwater leak in one of the steam condensers shortly after leaving Groton, Connecticut, as the submarine heads south toward the Panama Canal to transit to the Pacific for its expedition to the North Pole. After passing through the Canal and experiencing a fire (5/4/58), the Nautilus puts into Mare Island Naval Shipyard, near San Francisco, California, for repairs. The source of the leak cannot be pin pointed, however, and the ship proceeds to Seattle, Washington. During the trip to Seattle, the captain decides to use the same type of additive that is sold for leaky car radiators to try to repair the leak in the condenser. Upon arriving in Seattle in late May or early June, 140 quarts are purchased and half are poured into the cooling system. The reactor plantis started and the leak stopped.

28 Aprile 1958 - Christmas Island (Australia - Oceano Pacifico): test nucleare. Bomba H inglese.

4 Maggio 1958 - (incidente unità navale nucleare) Pacific: The USS Nautilus (SSN-571) suffers a fire in the insulation around one of its turbines as the ship is running submerged in the Pacific shortly after leaving Panama on its way to its Arctic mission. The insulation had become oil-soaked during the submarine's three years of operation and had caught fire. The fire is put out with minor injuries, but the submarine must surface to ventilate.

23 Maggio 1958 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Lion suffers a fire.

24 Maggio 1958 - Chalk River (Ontario -Canada). Incendio al reattore e fuga radiottiva. Due to inadequate cooling a damaged uranium fuel rod caught fire and was torn in two as it was being removed from the core at the NRU reactor. The fire was extinguished, but not before radioactive combustion products contaminated the interior of the reactor building and to a lesser degree, an area surrounding the laboratory site. Over 600 people were employed in the clean-up

28 Maggio 1958 - (incidente unità navale nucleare) Pacific: The USS Stickleback (SS-415) sinks after being rammed by the USS Silverstein (DE-534) off Pearl Harbor, Hawaii. There are no casualties. The submarine had lost power and drifted into the Silverstein's path.

8 Giugno 1958 - Atollo d'Enewetak (Oceano Pacifico): test nucleare ad una profondità di 50 m.

11 Giugno 1958 - (incidente unità navale nucleare) Atlantic: The trawler St. Clair catches a Royal Navy submarine in its net off Land's End, U.K. There is little damage.

16 Giugno 1958 - Usa. Un incidente a Oak Ridge: 12 persone investite dalle radiazioni. A leak in a tank containing uranyl nitrate solution (93% U-235) was discovered on 15 June. The leak was not properly logged. The following day other tanks were being drained into a 55-gallon drum; uranium solution from the leaking tank also entered the drum. The operator nearest the drum noticed yellow-brown fumes rising from the drum's contents; he retreated before seeing a blue flash as the criticality excursion occurred. Excursion power output rose for at least 3 minutes, then ended after 20 minutes. Eight people received significant doses: 461, 428, 413, 341, 298, 86, 86, and 29 rem.

20 Giugno 1958 - (incidente unità navale nucleare) : The Royal Navy minesweeper HMS Hound is involved in a collision.

28 Giugno 1958 - Atollo d'Enewetak (Oceano Pacifico): test nucleare ad una altezza di 2,6 m.

3 Luglio 1958 - (incidente unità navale nucleare) Pacific: The USS Chemung (AO-30) runs aground 500 yards off Alcatraz Island in San Francisco Bay, California, during a naval procession.

6 Luglio 1958 - (incidente unità navale nucleare) Indian: The USS Caney (AO-95) loses power during a monsoon in the Arabian Sea, and is in danger for several days until it can be towed by U.S. ships.

8 Luglio 1958 - (incidente unità navale nucleare) Atlantic: A U.S. Navy barge used for research in under water explosions suffers an explosion and flash fire while in port at Norfolk, Virginia.

19 Luglio 1958 - (incidente unità navale nucleare) Atlantic: The USS Piper (SS-409) runs aground on a sandbar off Provincetown, Massachusetts, but is pulled free after seven hours with minor damage.

22 Luglio 1958 - Bikini, Isole Marshall (Oceano Pacifico): test nucleare a livello del mare

23 Luglio 1958 - (incidente unità navale nucleare) Pacific: A fuel tank accidentally falls from a FJ4B Fury fighter being launched from the USS Ticonderoga (CV-14) while operating off California, killing two.

24 Luglio 1958 - (incidente unità navale nucleare) Atlantic: The USS Skate (SSN-578) suffers damage to its propeller when it collides with the USS Fulton (AS-11) while the tender is moored to a pier in New London, Connecticut.

22 Agosto 1958 - (incidente unità navale nucleare) Pacific: The USS Prestige (MSO-465) sinks after running aground off Shikoku, Japan.

3 Settembre 1958 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Amphion hits a British naval training ship.

24 Settembre 1958 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Camperdown suffers a fire.

29 Settembre 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Hogue collides with the British trawler Northern Foam while trying to prevent the arrest of the trawler by an Icelandic patrol boat for illegally fishing in Icelandic waters.

10 Ottobre 1958 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Andrew is involved in a collision.

14 Ottobre 1958 - (incidente unità navale nucleare) Atlantic: An explosion floods the engineering room of the USS Saratoga(CVA-60) at Jacksonville, Florida.

15 Ottobre 1958 - Vinca, Yugoslavia: criticità di incidente in un reattore di ricerca The accident involved a research reactor using 3,995 kg of aluminum-clad natural uranium fuel in a tank filled with heavy water for moderator. A subcritical foil counting experiment was being performed when an experimenter noticed the smell of ozone and realized a criticality excursion was occurring. The power buildup had gone undetected as the water level was raised due to saturation of both detecting chambers. The total energy release was about 80 million joules (about 2 kg of TNT equivalent). The six individuals in the room received doses of 433, 422, 415, 410, 320, and 205 rem. All developed severe radiation sickness and one died. The five survivors all received experimental bone marrow transplants, which were rejected in all patients, although before rejection the transplants probably contributed to survival.

21 Ottobre 1958 - (incidente unità navale nucleare) Atlantic: The USS Rich (DD-820), USS Moale (DD-693), USS Ellyson (DD-454), and the destroyer USS Sumner are damaged in a severe storm off North Carolina.

23 Ottobre 1958 - (incidente unità navale nucleare) Atlantic: The USS Lindenwald (LSD-6) is disabled off Greenland when the steering engines fail.

23 Ottobre 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Grenville inadvertently surges forward while preparing to leave Portland harbor, U.K., and collides with the minesweeper HMS Shoulton and the submarine support ship HMS Chaser.

25 Ottobre 1958 - Vinča, Yugoslavia. During a subcritical counting experiment a power buildup went undetected at the Boris Kidrich Institute's zero-power natural uranium heavy water moderated research reactor. Saturation of radiation detection chambers gave the researchers false readings and the level of moderator in the reactor tank was raised triggering a criticality excursion which a researcher detected from the smell of ozone. Six scientists received radiation doses between 200 to 400 rems. An experimental bone marrow transplant treatment was performed on all of them in France and five survived, despite the ultimate rejection of the marrow in all cases. A single women among them later had a child without apparent complications. This was one of the first nuclear incidents investigated by then newly-formed IAEA

27 Ottobre 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigates HMS Undine and HMS Ulysses are both damaged above the waterline in a collision off the Ile d'Ouessant, Brittany, France.

4 Novembre 1958 - Arkansas, USA. Un B-47 si schianta dopo il decollo. Il materiale nucleare non viene danneggiato. 4 Novembre 1958 - Dyess Air Force Base, Abilene, Texas. A B-47 bomber carrying a nuclear weapon caught fire during takeoff and crashed from an altitude of 1,500 feet, killing one crew member. The resulting detonation of high explosives created a crater 35 feet in diameter and six feet deep. Nuclear materials from the weapon were recovered near the crash site.

5 Novembre 1958 - (incidente unità navale nucleare) Atlantic: The USS Growler (SSG-577) springs a leak during a deep-sea dive but surfaces without damage off the Isle of Shoals, southeast of Portsmouth, New Hampshire. The Growler, designed for launching the Regulus II sea-to-land missile, was several hundred feet below the surface when the leak developed in an improperly adjusted sonar compartment fitting for an electrical cable.

6 Novembre 1958 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Alamein experiences a fire.

10 Novembre 1958 - (incidente unità navale nucleare) Pacific: The USS Ranger (CVA-61) suffers an explosion in the magazine area seven decks below the waterline while off San Francisco, California, killing two. A careless act by two crewmen trying to obtain gunpowder from the magazine to fuel a miniature ram jet engine they had built caused the explosion. The Navy said the two men were known rocket enthusiasts and were not authorized to be in the magazine area at the time of the explosion. The "relatively minor" damage takes about a month to repair due to the location of the accident.

12 Novembre 1958 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Alaric collides with a jetty.

18 Novembre 1958 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Rorqual experiences a fire.

26 Novembre 1958 - Base Chennault dell'Air Force, Lake Charles, Louisiana, USA. Un aereo C-124 che trasporta una bomba nucleare senza la sua capsula fissile si schianta durante il decollo, distruggendo completamente l'aereo e la bomba nucleare. Si ha una quantità limitata di contaminazione immediatamente sotto alla bomba distrutta, tale da non impedire, fortunatamente, operazioni di salvataggio o di spegnimento.

28 Novembre 1958 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Caesar suffers a fire.

23 Dicembre 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Undaunted collides with the minesweeper HMS Maxton off Cyprus.

30 Dicembre 1958 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyers HMS Jutland and HMS Dunkirk collide during day time maneuvers off Malta, causing slight damage.

30 Dicembre 1958 - Los Alamos, New Mexico, USA: criticità di incidente con soluzione di plutonio Plutonium solutions were inappropriately combined into a single vessel for mixing. When stirring of the tank began, a criticality excursion occurred which ended as the contents became more fully mixed. An operator who was viewing the tank received a dose to his upper body of 12,000 rem and died 36 hours later. Two others were exposed to doses of 134 and 53 rem but suffered no ill effects.

31 Dicembre 1958 - (incidente unità navale nucleare) Atlantic: In the late 1950s, a Soviet Northern Fleet diesel-powered submarine, possibly a Whiskey class submarine, reportedly sinks. The vessel was specially converted to be a test platform for a Soviet cruise missile, which was under development. The submarine went to sea carrying empty missile containers and sank on its return voyage.

FINE 1958 - Alla fine del 1958, gli esperimenti nucleari hanno prodotto sul pianeta circa 65 chili di stronzio 90, con una radioattività totale di 8,5 milioni di curie; la radioattività del cesio 137, alla stessa epoca, ammonta a 15 milioni di curie. Il fall out degli esperimenti americani e britannici, di grande potenza, e tutti, senza eccezione, in località nei pressi dell'equatore, si sono distribuiti uniformemente sull'intero globo. Tra il 1952 ed il 1957, gli USA hanno eseguito 90 test nel poligono nucleare del deserto del Nevada. Queste esplosioni hanno rilasciato una quantità di iodio 131 superiore di dieci volte a quella che si è sprigionata dalla centrale di Chernobyl. Gli stessi test hanno esposto mediamente ogni cittadino statunitense ad una radiazione pari a 2 rad (quelli provenienti dalla radioattività naturale ammontano a soli 0,24 rad annuali). Alcuni medici hanno calcolato che circa 10.000 tumori alla tiroide sono la conseguenza di questa pioggia contaminante invisibile. Fra 5.600 anni, ci sarà ancora sulla terra la metà del carbonio 14 prodotto da tali esperimenti, mentre il periodo di dimezzamento degli isotopi liberati dalle bombe H è 2di 4.000 anni per il plutonio 239 e di 720 milioni di anni per l'uranio 235.

11 Gennaio 1959 - (incidente unità navale nucleare) Atlantic: The USS Valley Forge (CVS-45) is damaged in a storm off North Carolina.

18 Gennaio 1959 - A grounded F-100 interceptor carrying a nuclear weapon without its fissile core burst into flames when its external fuel tanks were inadvertently jettisoned during a practice alert. The plane was carrying a payload of one nuclear weapon and three external fuel tanks. The fire was doused in about seven minutes and there were no contamination or cleanup problems.

28 Gennaio 1959 - (incidente unità navale nucleare) Atlantic: The port propeller of the USS Skate (SSN-578) is damaged in a collision with the USS Cubera (SS-347). The accident occurs during routine operations off the U.S. east coast just after the Cubera delivered mail to the Skate and moved away. The Navy says nobody was hurt.

2 Marzo 1959 - (incidente unità navale nucleare) Atlantic: A depth charge explodes aboard the USS Conway (DD-507) in the Atlantic, injuring two.

5 Marzo 1959 - (incidente unità navale nucleare) Atlantic: The USS Kenneth D. Bailey (DDR-713) and the USS Haiti Victory (T-AK-238) collide in the Strait of Gibraltar, killing one.

16 Marzo 1959 - (incidente unità navale nucleare) : The Royal Navy destroyers HMS Corunna and HMS Barrosa collide.

7 Aprile 1959 - (incidente unità navale nucleare) Atlantic: The USS Triton (SSN-586) suffers a galley fire caused by testing of a deep-fat fryer, while in New London, Connecticut. According to the Navy, the fire spread from the galley into the ventilation lines of the crew's mess. But quick action by crew members "resulted in the saving of the ship's equipment and possible loss of life."

9 Aprile 1959 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Ark Royal is damaged by fire in Devonport, U.K., while undergoing a refit.

9 Aprile 1959 - (incidente unità navale nucleare) Pacific: The U.S. Navy announces the USS Raton (SSR-270) and the USS George K. Mackenzie (DD-836) recently collided during maneuvers in the western Pacific.

13 Aprile 1959 - (incidente unità navale nucleare) : three small fires aboard the Royal Navy aircraft carrier HMS Eagle.

1 Maggio 1959 - (incidente unità navale nucleare) Atlantic: The USS Randolph (CVA-15) suffers a flash electrical explosion at the Norfolk Naval Base, Virginia, killing one.

21 Maggio 1959 - (incidente unità navale nucleare) : The Royal Navy boom defense vessel HMS Barnard runs aground.

21 Maggio 1959 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Rocket collides with a buoy.

28 Maggio 1959 - (incidente unità navale nucleare) Atlantic: A U.S. Navy FJ Fury jet crashes aboard the USS Essex (CVA-9) east of Jacksonville, Florida, causing explosions and fire, killing two, and injuring 21.

18 Giugno 1959 - (incidente unità navale nucleare) : The Royal Navy submarine depot ship HMS Maidstone suffers a fire.

30 Giugno 1959 - (incidente unità navale nucleare) Atlantic: The starboard rudder guard of the USS Macon (CA-132) is scraped off in the Welland Canal (connecting Lake Erie to Lake Ontario), delaying shipping for 17 hours.

6 Luglio 1959 - Base Barksdale dell' Air Force, Dossier City, Louisiana, USA. Un aereo C-124, che trasporta una bomba nucleare senza la sua capsula fissile, si schianta durante il decollo, distruggendo completamente l'aereo e la bomba nucleare. Si produce una quantità limitata di contaminazione immediatamente sotto alla bomba distrutta, tale da non impedire, fortunatamente, operazioni di salvataggio o di spegnimento.

8 Luglio 1959 - (incidente unità navale nucleare) Atlantic: The Royal Navy cruiser HMS Birmingham and destroyer HMS Delight collide during exercises off Malta, killing two.

11 Luglio 1959 - (incidente unità navale nucleare) Atlantic: The USS Gearing (DD-710) is damaged after colliding with a freighter in Chesapeake Bay.

26 Luglio 1959 - Santa Susana Field Laboratory, California, USA: un reattore raffreddato al sodio subisce una fusione parziale del nocciolo. Secondo Makhijani, presidente dell' Institute for Energy and Environmental Research, "Le misurazioni di Iodio 31 sono state da 80 a 100 volte più importanti di quelle rilevate a Three Mile Island".

31 Luglio 1959 - (incidente unità navale nucleare) Atlantic: The USS Upshur (AP-198) is heavily damaged by fire at the Brooklyn Army Terminal, New York.

11 Agosto 1959 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Broadsword suffers a fire off Iceland.

13 Agosto 1959 - (incidente unità navale nucleare) Atlantic: A Soviet warship, believed to be a destroyer shadowing NATO maneuvers, collides with the West German coastal vessel Christelin fog 30 miles off Kiel, West Germany. The Soviet ship reportedly stands by with its engines stopped while the Christel's crew works to plug a hole, then steams off when the Christel is out of immediate danger.

15 Agosto 1959 - (incidente unità navale nucleare) Atlantic: The U.S. Navy discloses that a ruptured water pipe aboard the USS Nautilus (SSN-571) partly flooded a compartment while the ship was submerged off Newfoundland four months ago. No injuries resulted.

18 Agosto 1959 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) is heavily damaged by an explosion and subsequent fires when a helicopter engine explodes while being tested in hangar bay Number 1 as the ship is operating 250 miles east of Norfolk, Virginia. The fires and reflash take over two hours to control. The ship was carrying nuclear weapons. In the first 30 minutes as the fires burned out of control and the forward magazines were flooded, preliminary preparations also were made to flood the nuclear weapon magazine. It was not flooded, however, and 30 minutes later the nuclear weapon magazine reported no significant rise in temperature. But water from the fire-fighting efforts eventually leaked into the nuclear weapon magazine around electrical cables.

25 Agosto 1959 - (incidente unità navale nucleare) Atlantic: A U.S. Navy F8U Crusader jet crashes into the rear of the USS Independence (CVA-62) off Norfolk, Virginia, killing one man and causing a fire.

27 Agosto 1959 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Hogue is involved in a collision.

29 Agosto 1959 - (incidente unità navale nucleare) Atlantic: The USS Decatur (DD-936) suffers an engine room fire while docked in Naples, Italy. The fire is extinguished after two hours during which the ammunition stores are flooded as a precautionary measure.

29 Agosto 1959 - Napoli, Italia. Catastrofe sfiorata per incendio a bordo del caccia Decour

9 Gennaio 1959 - (incidente unità navale nucleare) : The Royal Navy diving tender HMS Deepwater suffers a fire.

25 Settembre 1959 - Whidbey Island, Washington, USA. Un aereo P-5M della marina degli Stati Uniti trasportante una bomba nucleare di profondità disarmata della capsula fissile, si schianta a Puget Sound vicino Whidbey Island, Washington. La bomba non è mai stata ritrovata.

29 Settembre 1959 - (incidente unità navale nucleare) Atlantic: The USS Bristol (DD-857) collides with the Italian merchant vessel Italia Fassio in fog in the Nantucket Shoals area off Massachusetts. The Bristol is slightly damaged.

4 Ottobre 1959 - (incidente unità navale nucleare) Atlantic: The USS Tench (SS-417) runs aground on a mudbank in Portsmouth, U.K. The submarine is lifted off the mudbank without damage.

4 Ottobre 1959 - (incidente unità navale nucleare) Atlantic: The USS Franklin D. Roosevelt (CVA-42) collides with the USS Pawcatuck (AO-108) during refueling off Virginia. Both vessels are slightly damaged.

5 Ottobre 1959 - (incidente unità navale nucleare) Atlantic: The USS Seadragon (SSN-584) on the surface at night during its sea trials collides with a whale, or possibly a large shark, off Portsmouth, New Hampshire, bending one of its propellers. The submarine proceeds to Portsmouth for repairs on its own power using its other propeller.

7 Ottobre 1959 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Redpole collides with an oil lighter, sustaining an eight-foot hole in its bow.

15 Ottobre 1959 - (incidente unità navale nucleare) Atlantic: "Apparently intentional" damage to electrical cables of the USS Nautilus (SSN-571) is discovered during overhaul at the naval shipyard in Portsmouth, New Hampshire. The Navy says the damage appears to be confined to the electrical system and "does not extend to the nuclear reactor plant." The Navy disclosure of the incident follows an article in the Portsmouth Herald which reports a series of incidents involving "sabotage-type" damage to the craft including fires, cut cables, broken pipes, and other damage to vital parts.

15 Ottobre 1959 - Hardinsburg, Kentucky, USA. Un bombardiere B-52 entra in collisione con un KC-135 durante un rifornimento in volo. Fra i rottami dell'aereo vengono ritrovate una bomba intatta ed una parzialmente bruciata.

4 Novembre 1959 - (incidente unità navale nucleare) Atlantic: The USS Willis A. Lee (DL-4) suffers a fire after an explosion of an anti-aircraft round during exercises off Newport, Rhode Island.

6 Novembre 1959 - (incidente unità navale nucleare) Indian: The USS Threadfin (SS-410) is rammed by the Greek freighter Nikolas Mikhalos at the entrance to the Suez Canal as both ships are exiting to the Red Sea.

8 Novembre 1959 - (incidente unità navale nucleare) Indian: The Soviet cruiser Sverdlovsk collides with the German coastal vessel Hilda Rebecca in the Kiel Canal. The Sverdlovsk continues into the Baltic while the Hilda Rebecca has to be beached for repairs.

9 Novembre 1959 - (incidente unità navale nucleare) Pacific: A fire is discovered in the pump room of the USS Midway (CVA-41) at the Subic Bay Navy Base, Philippines. Arson is blamed for the incident.

27 Novembre 1959 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Tiger suffers a fire.

16 Dicembre 1959 - (incidente unità navale nucleare) Atlantic: The USS Searcher (AGR-4) reaches Boston, Massachusetts, safely under tow after being disabled at sea for five days with boiler trouble.

1960 - Lincolnshire, Gran Bretagna. (informazione tratta dall'Oxburg report, 1992, Gran Bretagna). A RAF weapon load carrier forming part of a convoy experienced a brake failure on an incline and overturned. There was no damage to any nuclear weapon.

1960 - USSR: ingestione di materiale radioattivo An individual suffered injury from ingestion of 2 millicuries of radium bromide, resulting in death 4 years later.

11 Gennaio 1960 - (incidente unità navale nucleare) Atlantic: An arresting gear cable aboard the USS Independence (CVA-62) breaks as an aircraft lands while the ship is operating off the Florida coast, killing one.

4 Febbraio 1960 - (incidente unità navale nucleare) Atlantic: Eleven men are swept overboard from the USS Daly (DD-519) during sea trials 200 miles off the Virginia coast, killing seven.

13 Febbraio 1960 - (incidente unità navale nucleare) Atlantic: The USS Skate (SSN-578) suffers "very minor" damage after colliding with a concrete pier at Electric Boatyard, Groton, Connecticut.

13 Febbraio 1960 - Reggane (Algeria): test nucleare. Prima Bomba atomica francese

28 Febbraio 1960 - (incidente unità navale nucleare) Atlantic: In late February in the Atlantic the USS Triton (SSN-586), shortly after departure for a submerged global circumnavigation, suffers a leak in a main condenser circulating water pump, necessitating the shut down of the port reactor for five hours to effect repairs.

1 Marzo 1960 - (incidente unità navale nucleare) Atlantic: In the beginning of March the USS Triton (SSN-586), while traveling down the Atlantic, springs a severe leak in its starboard propeller shaft due to loose bolts and an improperly installed water seal.

19 Marzo 1960 - (incidente unità navale nucleare) Atlantic: The USS Darby (DE-218) collides with the Swedish shore carrier Soya Atlantic off Cape Henry while returning from exercises off the Virginia Capes, killing two.

4 Aprile 1960 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Narwhal runs aground in high winds off Scotland.

7 Aprile 1960 - (incidente unità navale nucleare) Pacific: The USS Shangri-La (CV-38) suffers an explosion of an air separator operated by a gasoline motor while near Valparaiso, Chile, injuring three.

24 Aprile 1960 - (incidente unità navale nucleare) Atlantic: The USS Triton (SSN-586) suffers a serious casualty in the after torpedo room when a hydraulic line to the stern plane mechanism bursts just prior to the end of its global circumnavigation. Quick action by crew members prevents the accident from getting out of control. The leak is stopped and hydraulic power is restored.

25 Maggio 1960 - (incidente unità navale nucleare) Atlantic: The USS Saratoga (CVA-60) collides with the ore carrier Bernd Leonhardt off North Carolina. The accident touches off a jet fuel fire on the Saratoga which is quickly extinguished.

30 Maggio 1960 - (incidente unità navale nucleare) Atlantic: The USS Saratoga (CVA-60) suffers an oil-fed flash fire at the Norfolk Naval Shipyard, Virginia, where the carrier had docked after a collision on 25 May. The fire scorches the vessel's amidships hull.

7 Giugno 1960 - Base McGuire dell'Air Force, vicino Trenton, New Jersey. Un missile BOMARC ("BO" per Boeing e "MARC" per Michigan Aeronautical Research Center) per la difesa aerea, immagazzinato in uno stato di pronto utilizzo per permetterne il lancio in due minuti, viene distrutto dopo l'esplosione di un serbatoio con elio ad alta pressione e la rottura del serbatoio di carburante del missile. Anche se la testata viene distrutta dall'incendio, il dispositivo di sicurezza funziona correttamente e previene la detonazione della carica altamente esplosiva della bomba. Un articolo del New York Times descrisse, allora, uno scampato disastro nucleare, notando che il missile "si fuse sotto una fiamma intensa alimentata dal suo detonatore da 45,5 kg. di TNT... La testata atomica si sciolse apparentemente nella massa fusa che era rimasta del missile, il quale bruciò per quarantacinque minuti". Le radiazioni seguenti "furono causate quando la parte metallica di magnesio e ossido di torio, che forma parte della bomba, presero fuoco". Il rapporto del Pentagono affermò che fu contaminata solo l'area immediatamente sotto la bomba nucleare e, a causa del

deflusso dell'acqua di spegnimento dell'incendio, anche un'area adiacente estesa per la lunghezza di circa 30 metri.

8 Giugno 1960 - URSS: sovraesposizione intenzionale A 19-year-old research worker at a radiological laboratory committed suicide by exposure to a cesium-137 source. He took a capsule containing the source from the laboratory and put it in his left pants pocket for 5 hours, then shifted it around his abdomen and back for 15 hours. His whole body dose was 1,500-2,000 rad, with 3,000 rad to the trunk. Symptoms of radiation sickness developed within hours, and he died after 15 days.

8 Giugno 1960 - (incidente unità navale nucleare) Atlantic: Sabotage is suspected in an incident involving damage to a shipyard fire hose used on board the USS Nautilus (SSN-571) for testing the ship's evaporators while the ship is undergoing overhaul at Portsmouth Naval Shipyard, New Hampshire. The Navy says, "No damage occurred to the ship."

14 Giugno 1960 - (incidente unità navale nucleare) Pacific: The USS Sargo (SSN-583) suffers an explosion and fire in its aft end while docked in Pearl Harbor, Hawaii. The fire starts from a leak in a high-pressure line that was pumping oxygen aboard. The explosion occurs a few moments later. When dock units and boats are unable to bring the fire under control quickly, officers take the Sargo a short distance from the dock and deliberately submerge it with the stern torpedo hatch open to put out the blaze. The Navy says the ship's nuclear reactors were sealed off, and there was "absolutely no danger of an explosion from the reactor compartment." The submarine is extensively damaged and is drydocked taking three months to repair. The Sargo is the first nuclear ship in the Pacific Fleet and was scheduled to take the visiting King and Queen of Thailand on a cruise the next day.

Luglio 1960 - Il sottomarino USS Theodore Roosevelt (SSBN-600) tenta di sbarazzarsi della resina consumata del proprio sistema di demineralizzazione (utilizzato per eliminare le particelle ed i minerali radioattivi sciolti presenti nei circuiti refrigeranti primari). Il mezzo resta contaminato quando il vento rigetta la resina nella sua direzione.

19 Luglio 1960 - (incidente unità navale nucleare) Pacific: The USS Ammen (DD-527) and USS Collett (DD-730) collide in heavy fog off Newport Beach, California. Eleven of the Ammen's crew are killed and 20 are injured, and the ship is damaged beyond repair.

10 Agosto 1960 - (incidente unità navale nucleare) Pacific: The USS Bennington (CV-20) and USS Edwards (DD-619) collide during refueling 175 miles off California. A Navy spokesman later says that the Edwards "apparently lost steering control" and its superstructure smashed into the Bennington's Number 3 elevator. The destroyer is extensively damaged while the carrier is only slightly damaged.

12 Agosto 1960 - (incidente unità navale nucleare) Atlantic: The USS Exultant (MSO-441) suffers an oil fire in the engine room while operating off Georgia, killing five.

24 Agosto 1960 - (incidente unità navale nucleare) Atlantic: A U.S. Navy minesweeper is swamped at Charleston, South Carolina.

28 Agosto 1960 - (incidente unità navale nucleare) : Unexplained engine room damage delays the sailing of the Royal Navy destroyer HMS Dainty. Sabotage is suspected.

14 Settembre 1960 - (incidente unità navale nucleare) Pacific: The Australian destroyer Anzuc accidentally fires a salvo into the hull of the Australian destroyer Tobruk opening a hole above the waterline during maneuvers off Australia.

5 Ottobre 1960 - Stati Uniti. Un guasto al radar di NORAD provoca uno stato di massima allerta per un imminente attacco nucleare nemico.

13 Ottobre 1960 - sottomarino K-8 , Mare di Barents: perdita da un reattore A reactor accident occurred aboard the USSR submarine K-8 while it was on exercises in the Barents Sea. The K-8 (hull 261) was a Project 627 (November) class submarine commissioned on 31 August 1960. On 13 October 1960 a loss of coolant accident occurred when a leak developed in the steam generators and an additional pipe. Equipment for dealing with the leak was also damaged. The crew improvised a system to restore coolant to the reactor. During this time radioactive gases leaked into the entire vessel; radiation levels exceeded the maximum sensitivity of available monitors. Three crew members suffered radiation injuries, with doses later estimated at 180-200 rem. The submarine was returned to service; on 12 April 1970 the K-8 sank in the Bay of Biscay off Spain following an onboard fire.

4 Novembre 1960 - (incidente unità navale nucleare) Pacific: The USS Cree (ATF-84) is accidentally bombed by a plane from the USS Coral Sea (CVA-43) during exercises in the western Pacific.

28 Novembre 1960 - (incidente unità navale nucleare) Atlantic: About this date six men are soaked by reactor coolant while working on the USS Nautilus (SSN-571) at Portsmouth Naval Shipyard, New Hampshire. One man accidentally bumped a valve releasing the water onto himself and the others. Clothes and dosimeters were thrown away, making radiation measurement impossible.

Dicembre 1960 - I membri del Joint Strategic Target Planning americano, terminano il piano SIOP 62. Questo piano di guerra consiste nel lanciare più di 3.000 armi nucleari, comprese centinaia bombe H, per attaccare 1.000 bersagli differenti del blocco comunista, nelle prime ore del conflitto. Questo piano avrebbe dovuto essere sufficiente per uccidere un quarto della popolazione sovietica.

19 Dicembre 1960 - (incidente unità navale nucleare) Atlantic: Fire breaks out on the hangar deck of the USS Constellation(CVA-64) in the last stages of construction at the New York Naval Shipyard. Reports list 50 dead and an estimated damage of \$ 45million. A Navy court of inquiry investigation later finds there were 42 small fires earlier in the year. The fire delays the ship's commissioning by several months to 27 October 1961.

1961 - Svizzera: vernice di trizio An incident in Switzerland involving radiation exposure from tritium-containing paint caused one death from a 300-rem dose and significant exposures to two other individuals.

1961 - Plymouth, Gran Bretagna: incidente radiografico X-ray overexposures caused localized injuries to possibly 11 individuals.

3 Gennaio 1961 – National Reactor Testing Station, Idaho Falls (USA). A seguito di un incidente (dalle cause sconosciute, anche se pare che sia per un errato ritiro delle barre) in un reattore sperimentale di Idaho Falls negli Stati Uniti, muoiono, durante l'esecuzione di attività di routine, tre tecnici (John Byrnes, Richard McKinley et Richard Legg). Il grado di contaminazione dei corpi dei deceduti risulta così alto che le teste e le mani vengono tagliate e sepolte in un deposito di scorie radioattive. Non noto il numero di intossicati dentro e fuori l'impianto. Il reattore viene smontato; il

nocciolo di 13 tonnellate e la vasca vengono ritirati alcuni mesi dopo. The SL-1 reactor was a prototype of a reactor intended for easy assembly at remote facilities such as DEW line stations in the Arctic. It used 15 kg of uranium fuel (enriched to 91% U-235), was water moderated, and had a thermal power capacity of 3 MWt. Five aluminum-clad cadmium control rods provided reactor control. The SL-1 had operated 2 years, with an 11-day shutdown for maintenance being completed at the time of the incident.

Three workers were reassembling the control rod drives on 3 January in preparation for startup the following day. At about 9:01 PM the three workers were on top of the reactor when one manually removed the center control rod as rapidly as possible, over a 0.5-second period. The reactor became supercritical, with a total energy release of 1.3×10^8 joules (comparable to 30 kg of TNT), producing a steam explosion. The worker who extracted the rod was killed instantly, impaled on the building's ceiling by a control rod. The other two men were burned and thrown by the steam explosion, one dying instantly from impact with a shielding block and the other sustaining head injuries of which he died 2 hours later (maximum dose sustained was possibly 350 rad). The release of radioactive material was largely contained to the building.

Emergency responders were alerted by an automated alarm and arrived at the site at 9:10 PM. High radiation readings were measured in the reactor building, delaying entry. At 10:50 PM several responders and contractor personnel removed one man alive, who died shortly afterwards. One body was removed from the reactor building on 4 January and the other on 9 January. Of personnel/responders involved, 22 received doses of 3-27 rads from entering the building and/or handling the casualties.

The reason that the control rod was withdrawn is unknown, since none of the workers survived and the facility did not have appropriate data recording systems. The control rods in SL-1 had some tendency to stick, sometimes causing difficulty during manual extraction. One hypothesis is that the worker accidentally withdrew the control rod too far in an effort to overcome a stuck condition. The amount of withdrawal involved was about 50 cm, possibly difficult to achieve accidentally, and the particular control rod involved had not been sticking for the past six months. Another hypothesis is that the rod was intentionally withdrawn in an act of murder-suicide; this was the conclusion of the investigation of the incident.

6 Gennaio 1961 - (incidente unità navale nucleare) Atlantico: A Sea Vixen helicopter crashes into the sea at night after a deck accident on the Royal Navy aircraft carrier HMS Ark Royal while the ship is near Malta.

12 Gennaio 1961 - (incidente unità navale nucleare) Atlantico: The Royal Navy diesel submarine HMS Oberon runs aground at Rothesay Bay in the Firth of Clyde, Scotland, while maneuvering to tie up to a buoy. The Oberon is refloated the next day without damage.

14 Gennaio 1961 - (incidente unità navale nucleare) Atlantico: The USS Johnston (DD-821) and USS Keppler (DD-765) are slightly damaged in a "glancing collision" 200 miles off the North Carolina coast.

16 Gennaio 1961 - Air Force Base, Gran Bretagna. A nuclear bomber on round-the-clock alert crashed on takeoff causing spilled fuel to erupt into flames which engulfed the aircraft at an undisclosed USAF base in Britain. A nuclear weapon mounted on the aircraft's centerline pylon was badly damaged before the fire could be put out. According to secret correspondence to the Chairman of the U.S. Joint Commission on Atomic Energy (JCAE), the accident was so serious that the weapon was "scorched and blistered." The U.S. Government has never acknowledged the accident and it is not included on the DoD's list of broken arrows.

18 Gennaio 1961 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Brighton suffers a fire.

19 Gennaio 1961 - Monticello, Utah, USA. A B-52 bomber carrying one or more nuclear weapons was reported to have exploded in midair about 10 miles north of Monticello, Utah. The bomber had left Biggs AFB near El Paso, Texas, bound for Bismarck, North Dakota, on a routine "round-robin" training mission. Near Monticello the aircraft began climbing from 36,000 to 40,000 feet and soon experienced a violent bump followed by a descending right roll of about 410 degrees, a short period of wings-level, nose-down flight, and then a violent spin. The aircraft descended rapidly and at an elevation of 7,000 feet broke into several pieces that landed within an area two miles wide by 11 ½ miles long. Observers on the ground said the plane's left-wing engine caught fire, after which there was a midair explosion. Five crewmen were killed in the accident.

23 Gennaio 1961 - (incidente unità navale nucleare) Atlantic: The USS Saratoga (CVA-60) suffers a fire caused by a ruptured oil line while in the Ionian Sea en route to Athens, Greece, killing seven.

24 Gennaio 1961 - Goldsboro, Nord Carolina, USA. Durante un allertamento aereo, un bombardiere B-52, che trasporta due bombe nucleari, a causa del cedimento strutturale dell'ala destra, va a pezzi a mezz'aria, uccidendo i tre membri dell'equipaggio: la conseguente rottura dell'aereo libera le due bombe nucleari da un'altezza di 600-3.000 m. Il paracadute di una delle due bombe si apre correttamente con danno finale minimo. Il secondo paracadute della bomba, invece, funziona male e la bomba si squarcia a pezzi nell'impatto con il terreno, spargendo i suoi componenti su un'area estesa. Secondo Daniel Ellsberg, la bomba avrebbe potuto accidentalmente esplodere perché "cinque dei sei dispositivi di sicurezza avevano fallito". Anche il fisico nucleare Ralph E. Lapp conferma questa ipotesi, sostenendo che "solo un unico interruttore" ha "impedito alla bomba di detonare e di spargere fuoco e distruzione sopra un'ampia area". Il nucleo della bomba altamente arricchito di uranio non fu mai ritrovato. Allo scopo di prevenire qualsiasi scoperta della parte persa della bomba, l'aviazione acquistò il diritto d'uso dell'area in modo da vincolare alla propria autorizzazione eventuali permessi di costruzione o scavo nell'area stessa. I 24 megatoni della bomba rappresentano una potenzialità maggiore rispetto a tutto l'esplosivo usato in tutte le guerre della storia.

27 Gennaio 1961 - (incidente unità navale nucleare) Pacific: The USS Ticonderoga (CV-14) suffers a brief fire when a diesel generator blows up while the ship is at Naval Air Station North Island, San Diego, California.

Fine Gennaio 1961 - Casa Bianca, Washington, USA. Il presidente degli Stati Uniti Kennedy, allertato sull'incidente a Goldsboro del 24 gennaio dello stesso anno, viene informato che vi erano stati più di 60 incidenti che coinvolgevano armi nucleari dopo il 1945, di cui due riguardanti missili antiarerei con testata atomica realmente lanciati per inavvertenza.

3 Febbraio 1961 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Alaric strikes a sandbank and is grounded for 20 minutes near Sheerness off the east coast of the U.K.

2 Marzo 1961 - (incidente unità navale nucleare) Antarctic: The USS Glacier (AGB-4) and USS Staten Island (AGB-5) break free after being stuck in the ice in Antarctica for nine days.

14 Marzo 1961 - Vicinanze di Yuba City, California, USA. Un bombardiere B-52 con due armi nucleari, si schianta durante una missione di addestramento. Nessuna esplosione e nessuna contaminazione.

12 Aprile 1961 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Finwhale arrives in the Firth of Clyde, Scotland, with a six-by-two-foot hole in her casing caused by heavy seas in a gale as she sailed to the Arctic for underwater tests. A dent on the aluminum casing forward of the sail measures 20 by 6 feet.

25 Aprile 1961 - (incidente unità navale nucleare) : A boiler explosion occurs aboard the USS Intrepid (CVS-11), injuring 11.

27 Aprile 1961 - (incidente unità navale nucleare) Atlantic: The USS Diamond Head (AE-19) is holed above the waterline in a collision with the USS Independence (CVA-62) in the Caribbean.

30 Aprile 1961 - (incidente unità navale nucleare) Atlantic: The USS Baldwin (DD-624) runs aground off Montauk Point, New York. One sailor is killed and one hurt when a steel cable whiplashes during an attempt to free the ship. The ship is subsequently scuttled.

4 Luglio 1961 – URSS, al largo delle coste della Norvegia. La fuoriuscita di radiazioni per un guasto al sistema di controllo di uno dei due reattori di un sommergibile atomico sovietico provoca la morte del capitano e di sette membri dell'equipaggio. Grazie al valore dell'equipaggio viene scongiurata la fusione delle barre di combustibile, avendo il nocciolo raggiunto gli 800°C. A reactor accident occurred on the USSR ballistic missile submarine K-19 while it was on exercises in the North Atlantic. The K-19 (hull number 901) was the lead ship of the Project 958 (Hotel I) class, launched 8 April 1959 and commissioned 12 November 1960; it carried three R-13 SLBMs. On 4 July 1961 a leak developed at an inaccessible part of the primary cooling circuit, causing a sudden pressure drop and triggering emergency systems. The crew improvised a system to supply coolant, involving prolonged exposure to radioactive steam and other gases in the reactor compartment. Eight crew members sustained doses of 5,000 to 6,000 rem; the rest of the crew sustained significant doses as well (at least 100 rem). A diesel submarine evacuated the crew, and the K-19 was towed back to the Kola Peninsula. For the eight crewmembers with fatal doses, time from exposure to death in days was 6, 6, 6, 8, 9, 11, 16, and 19. The remaining crew were hospitalized with radiation sickness until September. Replacement of the reactor compartment was completed from 1962 to 1964, and the two damaged reactors were dumped in Abrosimova Bay in the Kara Sea.

10 Luglio 1961 - (incidente unità navale nucleare) Indian: The munitions ship Save runs aground and explodes off Mozambique.

14 Luglio 1961 - Siberian Chemical Combine, Russia: criticità di incidente con uranio An accumulation of uranium hexafluoride (with uranium enriched to 23.3% U-235) in a vacuum pump oil reservoir caused a criticality excursion and set off radiation alarms. Operators failed to identify the cause of the radiation readings and resumed operations. An operator turned on the vacuum pump again, producing a criticality excursion accompanied by a flash of light; the operator turned off the pump and went to a telephone to alert a supervisor. He developed mild radiation sickness from a dose of 200 rad. The oil reservoir was finally drained 18-19 July.

21 Luglio 1961 - (incidente unità navale nucleare) Atlantic: The USS Angler (SS-240) is slightly damaged in a minor collision with the freighter Export Adventurer during maneuvers with a destroyer 15 miles south of Block Island, Rhode Island.

9 Agosto 1961 - (incidente unità navale nucleare) Atlantic: The USS Kitty Hawk (CVA-63) suffers a boiler breakdown involving ruptured tubes at Norfolk, Virginia, just prior to its shake down cruise.

19 Agosto 1961 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Broadsword suffers a damaged boiler.

26 Settembre 1961 - (incidente unità navale nucleare) Atlantic: A U.S. Navy tanker catches fire and explodes while in port at Morehead City, North Carolina, killing one. Flames from the burning ship threaten seven huge storage tanks containing more than ten million gallons of high octane aviation fuel.

26 Settembre 1961 - (incidente unità navale nucleare) Pacific: The USS Charr (SS-328) suffers an engine room flood while submerged at 100 feet and operating 150 miles west of San Diego, California. Two sailors seal themselves in the flooded compartment and save the submarine and its 76 crewmen by manning the controls until the submarine surfaces.

16 Ottobre 1961 - (incidente unità navale nucleare) Atlantic: The USS Randolph (CVS-15) collides with the Liberian tanker Atlantic Viscountess 325 miles east of Charleston, South Carolina. The collision ruptures a gasoline line on the carrier causing a flash fire which is extinguished in less than five minutes.

31 Ottobre 1961 - Novaya Zemlya (Oceano Artico -URSS): test nucleare (Bomba Zar). FALLOUT: Da sola generò il 25% dei residui fissili dal 1945. La Bomba "Zar", la regina delle bombe, fu la bomba H più potente. Nacque dal lavoro del teorico Yakov Zeldovitch e dei fisici Andrei Sacharow, Vitali Ginzburg e Viktor Davidenko. La bomba venne lanciata da un bombardiere Tu-95 pilotato da A. E. Durnovtsev, diventato un eroe dell'Unione Sovietica. Il soprannome di "Bomba Zar" gli venne dato dagli americani per qualificare il progetto come inutile poichè esisteva già il cannone più grande al mondo, lo Zar Pushka. Si riporta che la bomba potesse infliggere ustioni di primo grado anche a 100 km. di distanza. La distruzione è totale in un raggio di 25 Km e le costruzioni sono seriamente danneggiate fino a 35 Km. di distanza dall'esplosione. Si ignora quali potrebbero essere i danni anche a più grandi distanze, ma è probabile che, in caso di vento i suoi effetti si sentirebbero anche a 1.000 Km. dal punto di impatto.

2 Novembre 1961 - (incidente unità navale nucleare) Atlantic: During its sea trials the USS Thresher (SSN-593) docks at San Juan, Puerto Rico. Its reactor is shut down and a diesel generator is started up to provide electricity in keeping with usual docking procedures. But after seven or eight hours of operation the diesel generator breaks down. While sailors work on the generator, electricity is provided by an electric storage battery. The generator takes much longer than expected to repair, however, and so the decision is made to restart the reactor. But, a nuclear reactor takes several hours and considerable electricity to restart, and the Thresher's battery is depleted before the reactor becomes critical. With no electricity to keep the ventilation system going, the submarine starts to heat up. Temperatures in the machinery spaces reach approximately 140 degrees. Some men are ordered out suffering from the heat and fumes, and the captain fears the heat and humidity could damage electrical equipment and lead to a general evacuation. Ultimately the problem is solved by hooking up electrical cables to the diesel-electric powered submarine Cavalla (SS-244) which is moored along side early the next morning. With electricity from the Cavalla, the Thresher's reactor is able to be restarted.

4 Novembre 1961 - Il rimorchio di un autocarro prende fuoco mentre trasporta una piccola quantità di materiale radioattivo. Pare che non ci sia stata alcuna contaminazione risultante dall'incendio.

6 Novembre 1961 - (incidente unità navale nucleare) : A fire on the newly-commissioned USS Constellation (CVA-64) breaks out at sea, killing four and severely injuring nine.

5 Dicembre 1961 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Falmouth collides with the naval auxiliary HMS Tide Flow during antisubmarine warfare exercises in Lyme Bay off the Dorset coast, U.K. The Falmouth is holed above and below the waterline, but returns to Portland, U.K., under its own power. The Tide Flow suffers superficial damage.

10 Dicembre 1961 - Nuovo Messico, USA. Un test sotterraneo con esplosione nucleare, libera nuvole impreviste di vapori radioattivi. Ciò causa la chiusura di alcune autostrade del Nuovo Messico.

21 Dicembre 1961 - (incidente unità navale nucleare) Atlantic: A rocket motor aboard the USS Meredith (DD-890) ignites and burns on its launcher, causing an intense fire of short duration, while the ship is at Mayport, Florida. The commander of the destroyer squadron to which the Meredith is attached says that safety features prevented the rocket from leaving the ship.

31 Dicembre 1961 - (incidente unità navale nucleare) Atlantic: In 1961 an accident in the nuclear power plant of an early class of Soviet nuclear-powered ballistic missile submarine (probably a Hotel class) reportedly occurs near the coast of England while ship is returning from a training exercise. Crew members were seriously contaminated and parts of the ship and its missiles were also contaminated when a cooling pipe broke. The level of radiation is reported to have been five roentgens per hour in the space where the pipe broke. After a two-month ventilation of the submarine, a decision is made to transfer the missiles to two diesel-powered submarines for their test launches.

1962 - Cecoslovacchia. Uno studio dimostra che la miniera d'uranio di České Budějovice ha causato la morte del 80% del bestiame per leucemie e deformazioni.

6 Gennaio 1962 - (incidente unità navale nucleare) Arctic: Western intelligence sources report that a submarine belonging to the United States or another NATO power was damaged and forced to the surface by a 20-megaton underwater nuclear test blast set off by the Soviet Union in the Barents Sea. The detonation point is said to have been about 100 miles from the submarine whose commander is quoted as saying, "If we had been much closer we might not have survived."

16 Gennaio 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Ark Royal suffers propeller damage when it runs aground in Plymouth Sound on its way through a deep water channel to the Devonport, U.K., dockyard.

31 Gennaio 1962 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Eagle suffers unknown damage in an accident.

3 Febbraio 1962 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Carron suffers damage caused by sailors.

20 Febbraio 1962 - (incidente unità navale nucleare) Atlantic: The USS Balao (SS-285) is snagged by the tow-line of the ocean tug Torrent IV while cruising 110 feet below the surface off the Florida coast. The accident damages one of the Balao's mast headlights, punches two small holes in the superstructure supporting the periscope, and breaks one radar antenna and damages another. Neither the tug nor the barge under tow receives damage.

5 Marzo 1962 - (incidente unità navale nucleare) Atlantic: An aircraft arresting cable aboard the USS Forrestal (CVA-59) snaps while the carrier is en route from Guantanamo Naval Base, Cuba, to Norfolk, Virginia, killing one.

6 Marzo 1962 - (incidente unità navale nucleare) Atlantic: The USS Monssen (DD-798) is grounded by a storm at Beach Haven, New Jersey.

12 Marzo 1962 - (incidente unità navale nucleare) Atlantic: The USS Proteus (AS-19) suffers a brief fire during a weekend training cruise in the Irish Sea. The fire, which causes only slight damage, apparently started in a pile of rags.

21 Marzo 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Rothesay rams the Turkish diesel submarine Gur in the western Mediterranean during the NATO exercise "Dawn Breeze." Both ships suffer damage and proceed to Gibraltar.

21 Marzo 1962 - Mexico City, Messico: fonte radiografica compromessa In March 1962 a 10-year-old boy discovered a 5-Ci cobalt-60 industrial radiography source, not in its shielded container. The boy carried the source in a pocket for several days, then it was placed in a kitchen cabinet in his home. Four family members died of resulting radiation sickness: the boy died 29 April (day 38), his mother on 19 July, his 2-year-old sister on 18 August, and his grandmother on 15 October. Radiation exposure was not identified as the cause of the deaths until July-August. The father survived with lesser symptoms. Estimated doses for the four who died were 4,700-5,200 rad, 3,500 rad, 3,000 rad, and 2,870 rad; dose to the father was about 990-1,200 rad.

26 Marzo 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Dreadnought suffers a fire in a cabin while the ship is under construction at Barrow-in-Furness, U.K.

30 Marzo 1962 - (incidente unità navale nucleare) Pacific: The USS England (DLG-22) suffers an explosion and fire at San Pedro, California, injuring 18 workmen before the fire is brought under control.

7 Aprile 1962 - Hanford, Washington, USA: Criticità di incidente con soluzione di plutonio An accident at a plutonium processing plant resulted in a criticality accident. Plutonium solution was spilled onto the floor of a solvent extraction hood. Improper operation of valves allowed a mixture of plutonium solutions in a tank that became supercritical, prompting criticality alarms to sound and subsequent evacuation of the building. Exact details of the accident could not be reconstructed. The excursion continued at low power levels for 37.5 hours, during which a remotely controlled robot was used to check conditions and operate valves. Criticality was probably terminated by precipitation of plutonium in the tank to a non-critical state. Three people had significant radiation exposures (110, 43, and 19 rem).

9 Aprile 1962 - (incidente unità navale nucleare) Atlantic: The USS Thomas A. Edison (SSBN-610) collides with the USS Wadleigh (DD-689) during antisubmarine warfare exercises 200 miles east of Norfolk, Virginia. The Edison's topside rudder is slightly bent and the destroyer's forward bottom plates are pierced. The Edison is repaired at Newport News, Virginia, in several hours while the Wadleigh goes into drydock for several weeks. According to a Navy spokesman the collision resulted from a misunderstanding between the two ships and occurred as the Edison was surfacing. No one is injured.

11 Aprile 1962 - (incidente unità navale nucleare) Atlantic: Fire breaks out in the rudder section of the USS Thomas A. Edison (SSBN-610) at Norfolk, Virginia. The fire is caused by the heat from a workman's acetylene torch and is brought under control within 30 minutes.

29 Aprile 1962 - (incidente unità navale nucleare) Pacific: A British Gannet aircraft crashes on the Royal Navy aircraft carrier HMS Ark Royal while the ship participates in a SEATO exercise in the South China Sea, killing one.

1 Maggio 1962 -Béryl, Sahara. La Francia effettua il suo secondo test nucleare sotterraneo, ma la montagna Taourirt che doveva contenere l'esplosione, si fissa e libera una nuvola radioattiva che contamina diversi militari ed ufficiali.

3 Maggio 1962 - (incidente unità navale nucleare) : Police investigate damaged electrical cables on the Royal Navy aircraft carrier HMS Eagle. Further damage is found the next day.

10 Maggio 1962 - (incidente unità navale nucleare) Pacific: The USS Permit (SSN-594) is run over by the cargo ship Hawaiian Citizen while the Permit is on a submerged test run near the Farallon Islands 30 miles from San Francisco, California. A Navy spokesman said the only damage to the submarine was a bending of the doors to the conning tower. The crew had to force the doors open to raise the radio antenna to communicate with freighters standing by.

3 Giugno 1962 - (incidente unità navale nucleare) Atlantic: The USS Thresher (SSN-593) is damaged in a collision with a commercial tug that was berthing it at Port Canaveral, Florida, receiving a three-foot gash in the submarine's ballast tanks about a foot below the waterline. The submarine went to New London, Connecticut, under its own power to effect repairs.

4 Giugno 1962 - Oceano Pacifico. La testa nucleare di un'ogiva di un booster di un razzo Thor cade nell'Oceano Pacifico prima che avrebbe dovuto distruggersi il booster.

6 Giugno 1962 - Nevada Test Site, Area 10 (USA): test nucleare a 190 m. di profondità. FALLOUT: 12 milioni di tonnellate di cui 8 fuori dal cratere (Magnitudine Richter).

7 Giugno 1962 - (incidente unità navale nucleare) Atlantic: The U.S. destroyer USS Sumner runs aground off Golfe Juan in the Mediterranean during a wind storm

9 Giugno 1962 - USA: test nucleare Truckee ad una altezza di 2.091 m.

15 Giugno 1962 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Blackpool suffers damage caused by a sailor.

20 Giugno 1962 - Oceano Pacifico. La testa nucleare di un'ogiva di un booster di un razzo Thor cade nell'Oceano Pacifico prima che avrebbe dovuto distruggersi il booster (identica situazione di 16 giorni prima)

25 Giugno 1962 - (incidente unità navale nucleare) Pacific: The USS Tiru (SS-416) suffers a fire which forces the vessel to make an emergency surfacing 15 miles south west of Pearl Harbor, Hawaii, with 18 men suffering from smoke inhalation. A malfunction of a practice torpedo in the torpedo room caused the fire.

30 giugno 1962 - USA: test nucleare Bluestone ad una altezza di 1.494 m

1 Luglio 1962 - (incidente unità navale nucleare) Pacific: A U.S. Navy F8U Crusader aircraft crashes into the USS Ranger (CVA-61) at sea off California, injuring two.

1 Agosto 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Battleaxe collides with the frigate HMS Ursa in the Clyde river, Scotland, during the night. The Battleaxe is subsequently scrapped.

28 Agosto 1962 - (incidente unità navale nucleare) Atlantic: A British Meteor aircraft hits the mast of the Royal Navy minesweeper HMS Appleton while exercising off Malta. The aircraft is piloted safely to Luqa airport, Malta.

29 Agosto 1962 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Ark Royal suffers a gale mishap.

Settembre 1962 - USA. Per ridurre la vulnerabilità degli Stati Uniti di fronte ad un attacco atomico, il presidente J.F. Kennedy consiglia agli americani di costruire dei rifugi antiatomici. La sua lettera pubblicata a settembre dal giornale "Life" darà luogo ad una vera "shelter mania" che durerà un anno. Ancora oggi, centinaia di americani dispongono di un rifugio antiatomico.

13 Settembre 1962 - (incidente unità navale nucleare) Pacific: A Japanese fishing boat collides with a submarine, believed to be Soviet, and sinks off Northern Japan. The crew of 16 escapes on rafts and rubber boats.

4 Ottobre 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Ashanti breaks down during sea trials in the Caribbean Sea.

9 Ottobre 1962 - (incidente unità navale nucleare) Atlantic: A Danish diesel submarine gets caught in the net of a British fishing trawler. The submarine surfaces with damage to neither vessel and apologies were exchanged.

10 Ottobre 1962 - (incidente unità navale nucleare) Atlantic: The USS Triton (SSN-586) suffers a fire during repairs in New London, Connecticut. A spokesman for Electric Boat Division of General Dynamics Corporation said there was only minor damage to one compartment and that no one was injured. He said no radioactivity was involved. The cause of the fire was said to be undetermined.

13 Ottobre 1962 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Odin touches the bed of the English Channel at 150 feet five miles south of Portland Bill during a night exercise, damaging the rudder. The submarine is towed back to Portland harbor, U.K.

15 Ottobre 1962 - (incidente unità navale nucleare) Atlantic: The New York Times reports that one of six Soviet diesel-powered attack submarines operating in the Caribbean during the Cuban missile crisis experiences mechanical trouble and is unable to submerge except for short periods. On 15 November the Associated Press reports that a Canadian Air Force patrol plane sighted the Soviet submarine off Halifax still unable to submerge. It eventually returns to the Soviet Union on the surface with a trawler escort.

16/29 Ottobre 1962 - Crisi di Cuba. E' la crisi dei missili. Gli Stati Uniti scoprono che Fidel Castro ha fatto installare dei missili russi a Cuba. Kennedy e Krushchev lavorano di diplomazia. I russi ritirano i missili e gli americani le loro truppe dalla Turchia.

25 Ottobre 1962 - Base Volk Field, Wisconsin, USA. Un campanello d'allarme indicante l'inizio di una guerra nucleare con l'Unione Sovietica comincia a suonare accidentalmente durante l'apice della crisi dei missili cubani. I piloti corrono ai loro aerei dotati di armi nucleari, pronti a partire quando l'errore viene individuato da un ufficiale nel posto di comando. Ai piloti è ordinato di ritornare.

25 Ottobre 1962 - (incidente unità navale nucleare) Pacific: The New York Times reports that well before the Cuban missile crisis a mechanical breakdown occurred in a Soviet diesel-powered submarine in the Gulf of Alaska. The submarine could not submerge and was escorted home by a trawler.

5 Novembre 1962 - (incidente unità navale nucleare) Pacific: The USS Kearsarge (CVS-33) and USS Mattaponi (AO-41) are slightly damaged in a collision during refueling off California.

14 Novembre 1962 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) and the USS Holder (DDE-819) collide during refueling while in the Atlantic while taking part in the U.S. quarantine of Cuba during the Cuban missile crisis.

20 Novembre 1962 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Centaur suffers a steam leak in the boiler room, killing five.

26 Novembre 1962 - (incidente unità navale nucleare) Indian: The Royal Navy aircraft carrier HMS Albion collides with a tug in Aden harbor, Aden. The tug sinks with two missing.

2 Dicembre 1962 - Marietta, Georgia, USA. Un treno per Louisville e Nashville deraglia mentre trasporta componenti di armi nucleari. Il materiale non risulta danneggiato, ma tre corrieri rimangono feriti.

3 Dicembre 1962 - (incidente unità navale nucleare) Pacific: The USS Kearsarge (CVS-33) and the SS Oriana collide in dense fog off Long Beach, California. The Oriana suffers a 20-foot hole near its bow and the Kearsarge suffers a 25-foot rip about ten feet aft on the starboard side.

14 Dicembre 1962 - (incidente unità navale nucleare) Atlantic : The Royal Navy diesel submarine HMS Otter rams a trawler off Plymouth, U.K. The crew of the trawler abandon ship and are rescued by a nearby launch.

31 Dicembre 1962 - (incidente unità navale nucleare) Arctic: During 1962, the engine room of the USS Skate (SSN-578) begins to flood after a sea water circulation line fails while the submarine is submerged at 400 feet on the way through Baffin Bay off Thule, Greenland. Seawater sprays in and starts to flood the engine room. The submarine does not lose power and surfaces safely. On the surface, with the water pressure greatly reduced, the flooding is successfully stopped.

1963 - Lincolnshire, base RAF, Gran Bretagna. (informazione tratta dall'Oxburg report, 1992, Gran Bretagna). A rear trolley of a nuclear weapon transport became unhitched. There was no damage to any nuclear weapon.

1963 - Lincolnshire, South Yorkshire, Gran Bretagna. (informazione tratta dall'Oxburg report, 1992, Gran Bretagna). Brake failure on a nuclear weapon load carrier. There was no damage to any nuclear weapon.

1963 - A partire dal 1963, 131 ricoverati della prigione di stato dell'Oregon, vengono pagati 200 dollari ciascuno dalla Commissione dell'Energia Atomica (AEC), per permettere l'irradiazione dei loro testicoli

3 Gennaio 1963 - (incidente unità navale nucleare) Pacific: The USS Core (AKV-41) runs aground in heavy fog off Fort Baker under the Golden Gate Bridge, San Francisco, California.

11 Gennaio 1963 - Sanlian, Cina: fonte compromessa A 10-curie cobalt-60 source from an industrial seed irradiator was removed from a buried waste repository and taken to a residence by a child. Six family members were exposed to the source over 5-9 days, and another relative (the child's uncle) for 9 hours during an overnight stay. Three family members (two children and the mother) exhibited symptoms within 8 days. The child and a brother sustained the largest doses; one died after 12 days of an 8,000-rem doses, the other after 11 days of a 4,000-rem dose. The mother sustained an 800-rem dose and recovered, although a skin ulcer on one leg failed to heal despite multiple skin grafts, and the femur of that leg sustained a pathological fracture 10 years later requiring surgery. One brother, aged 20, sustained a dose of 600 rem and was left sterile. The sister, aged 13, sustained a dose of 400 rem; she eventually had two children, one of whom was severely mentally retarded. The uncle sustained a whole body dose of 200 rem but a localized dose of up to 20,000 rem to one leg, which was amputated 5 years later.

15 Gennaio 1963 - (incidente unità navale nucleare) Pacific: A jet fighter attempting to land snaps a cable aboard the USS Constellation (CVA-64) while the ship is operating in the eastern Pacific, injuring 11, including three whose legs have to be amputated.

9 Febbraio 1963 - (incidente unità navale nucleare) Atlantic: In the mid-Atlantic a wave washes over the Number 1 elevator on the USS Enterprise (CVAN-65) while the elevator is in the down position. Four men are washed over board. Two are rescued, but one later dies.

20 Febbraio 1963 - (incidente unità navale nucleare) Atlantic: An aircraft crash aboard the USS Enterprise (CVAN-65) sweeps the carrier's deck with fire while it is operating in the Atlantic, killing two.

28 Febbraio 1963 - (incidente unità navale nucleare) Pacific: The USS Bausell (DD-845) runs aground off Djakarta, Indonesia, prior to a scheduled visit to that city. The ship is refloated four days later.

11 Marzo 1963 - Sarov, Russia: criticità di incidente con assemblaggio di plutonio A critical experiment assembly was being assembled without proper checking procedures. The assembly included a plutonium core with a neutron source in the center, all surrounded by a lithium deuteride reflector. While experimenters were assembling it, a criticality excursion occurred producing a flash of light. At that point the experimenters left the room and the assembly table was manually lowered from the control room (the automatic scram system was not operating). Two experimenters received doses of 370 and 550 rem, respectively. Both experienced radiation sickness and recovered (the first lived to 1989, the second was still alive in 1999).

13 Marzo 1963 - (incidente unità navale nucleare) Pacific: The side of the USS Valley Forge (CV-45) is slightly damaged by a fire when an oil film on the water is ignited by sparks from a welder's torch at Long Beach, California.

1 Aprile 1963 - (incidente unità navale nucleare) Pacific: The Royal Navy diesel submarine HMS Tabard collides with a wharf damaging its sonar equipment while berthing in Brisbane, Australia.

1 Aprile 1963 - (incidente unità navale nucleare) : In April the Royal Navy mine layer HMS Manxman runs aground.

1 Aprile 1963 - (incidente unità navale nucleare) Arctic: The Royal Navy diesel submarine HMS Grampus returns to Gosport, U.K., after spending three weeks under the polar icecap looking for holes in the ice. During the patrol it superficially damages its hull on the ice.

5 Aprile 1963 - (incidente unità navale nucleare) Atlantic: The USS Great Sitkin (AE-17) suffers slight damage during a fire of unknown origin while tied up at the Main Ship Repair Corporation in Brooklyn, New York.

5 Aprile 1963 - (incidente unità navale nucleare) Pacific: The USS Ranger (CVA-61) suffers an explosion and fire in the boiler uptakes while en route from Beppu, Japan, to Iwakuni, Japan.

8 Aprile 1963 - (incidente unità navale nucleare) Atlantic: An unidentified submarine becomes entangled in the nets of the trawler Sunapee off New England and drags overboard about \$3,000 worth of fishing gear.

10 Aprile 1963 - (incidente unità navale nucleare) Atlantic: The USS Thresher (SSN-593) sinks in approximately 8,400 feet of water 220 miles east of Boston while conducting post-overhaul trials, killing all 129 men on board. The Navy Court of Inquiry concludes a flooding casualty in the engine room brought about by a piping system failure in one of the submarine's saltwater systems is the most probable cause of the sinking. The Thresher is never recovered

10 Aprile 1963 - Ad est di Boston, Massachusetts, USA. Il sottomarino nucleare americano Thresher affonda con 129 persone a bordo nelle acque dell'Atlantico a 350 chilometri dalle coste della nuova Inghilterra. L'inchiesta accerterà che l'unità era in missione priva delle adeguate misure di sicurezza.

Maggio 1963 - Mandan, Dakota du Nord, USA. Si registra la più alta concentrazione mai registrata negli USA (fino al 2003) di stronzio 90 nel latte, probabilmente dovuta al sito nucleare di Hanford.

4 Maggio 1963 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Diamond suffers an engine room fire.

7 Maggio 1963 - (incidente unità navale nucleare) Atlantic: A fire occurs aboard the USS Flasher (SSN-613) at the Electric Boat shipyard, Groton, Connecticut, killing three and injuring two. Damage to the ship is reportedly negligible. The fire occurred in the trimming tank of the submarine, scheduled to be launched on 14 June.

8 Maggio 1963 - (incidente unità navale nucleare) Pacific: The USS Woodrow Wilson (SSBN-624) suffers a fire while under construction at Mare Island Naval Shipyard in Vallejo, California, injuring three. The fire causes only minor damage to the Wilson and occurs when a heavy cable comes in contact with a switchboard on the submarine.

8 Maggio 1963 - (incidente unità navale nucleare) Pacific: The submerged Royal Navy diesel submarine HMS Tabard collides with the Royal Australian Navy frigate Queensborough off Jervis Bay, New South Wales, Australia, during exercises. The submarine suffers superficial damage and a bent fin and returns to Sydney.

22 Maggio 1963 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Devonshire suffers engine trouble.

29 Maggio 1963 - (incidente unità navale nucleare) Atlantic: A flash fire breaks out in the boiler room of the USS Blandy(DD-943) shortly after it arrives in Portland, Maine, to participate in Memorial Day exercises.

4 Giugno 1963 - (incidente unità navale nucleare) : The USS Asterion (AF-63) and the Japanese freighter KokokuMaru collide.

7 Giugno 1963 - (incidente unità navale nucleare) Atlantic: The USS Tinosa (SSN-606) collides with the USS John Adams (SSBN-620) while being moved in the Portsmouth Naval Shipyard, New Hampshire, when a tug towline snaps. The Tinosa received, what the Navy said, was a "small dent below the waterline" in the bow.

10 Giugno 1963 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Rorqual is caught in a trawler's net.

4 Luglio 1963 - (incidente unità navale nucleare) : The USS Salmon (SS-573) suffers personnel casualties when mercury from a broken thermometer comes into contact with a hot grid, creating toxic mercury vapor, resulting in the intoxication of 14 crewmembers.

22 Luglio 1963 - (incidente unità navale nucleare) Atlantic: The USS William C. Lawe (DD-763) rams and sinks a U.S. Navy tug when the tug loses steering control and crosses into the path of the destroyer in the St. John's River near Jacksonville, Florida.

27 Luglio 1963 - (incidente unità navale nucleare) Atlantic: The U.S. freighter Irish Spruce strikes the docked USS Pratt (DE-363) at Norfolk, Virginia.

29 Luglio 1963 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Leopard is in a collision.

2 Agosto 1963 - (incidente unità navale nucleare) Pacific: The USS Tingey (DD-539) and USS Vammen (DE-644) collide during a Naval Reserve exercise 200 miles off southern California. The Tingey is partly flooded from a deep gash in its starboard side and the Vammen suffers a damaged bow, but both ships make it back to their homeports.

15 Agosto 1963 - (incidente unità navale nucleare) Atlantic: A F3H Demon aircraft lands on the fouled deck of the USS Saratoga (CVA-60) while the ship is operating in the Mediterranean, killing two and seriously injuring nine. Fifteen aircraft sustain damage.

19 Agosto 1963 - (incidente unità navale nucleare) Pacific: The USS Constellation (CVA-64) suffers an arresting gear accident while operating in the western Pacific.

27 Agosto 1963 - (incidente unità navale nucleare) Pacific: The USS Grayback (SSG-574) suffers a serious fire in the after crew's berthing as a result of a casualty to the main propulsion circuit breaker while operating in the northern Pacific, killing one man and injuring five.

10 Settembre 1963 - (incidente unità navale nucleare) Pacific: The USS McDermut (DD-677) collides with the USS Gregory(DD-802) during night antisubmarine warfare exercises off southern

California. The McDermut suffers damage to its bow and the Gregory suffers a split in her starboard side to the main deck.

21 Settembre 1963 - (incidente unità navale nucleare) Atlantic: The USS Grouse (MSCO-15) runs aground on Cape Ann, Massachusetts. After attempts to free the ship fail, the Grouse is destroyed by fire.

26 Settembre 1963 - (incidente unità navale nucleare) Atlantic: Fire breaks out in a fuel system of the Royal Navy aircraft carrier HMS Centaur at the Portsmouth naval base, U.K., killing one.

27 Settembre 1963 - (incidente unità navale nucleare) Atlantic: The USS Barry (DD-933) accidentally discharges a torpedo into the deck house of the USS Decatur (DD-936) moored along side in Newport, Rhode Island. There are no injuries or significant damage.

3 Ottobre 1963 - (incidente unità navale nucleare) : The USS Medregal (SS-480) is struck by an MK-37 torpedo fired by the USS Sabalo (SS-302) during exercises. Damage is not major.

9 Ottobre 1963 - (incidente unità navale nucleare) Pacific: The USS Caliente (AO-53) and USS Nereus (AS-17) collide in the San Diego, California, operating area during refueling exercises. Both ships are damaged.

18 Ottobre 1963 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Porpoise collides with the aircraft carrier HMS Centaur when it is caught by an ebb tide and drifts broadside on to the bows of the berthed carrier while leaving Portsmouth harbor, U.K. The submarine suffers superficial damage.

24 Ottobre 1963 - (incidente unità navale nucleare) Atlantic: The USS Roberts (DE-749) collides with the Swedish ore carrier Luossa inside the Baltimore, Maryland, harbor in dense fog. The Roberts suffers minor flooding due to a small gash in its starboard quarter.

13 Novembre 1963 - Commissione per l'Immagazzinamento dell'Energia Nucleare negli Igloo, Base Medina, San Antonio, Texas, USA. I componenti dell'alto esplosivo (HE "High explosive") di una bomba atomica (che tre lavoratori stanno smontando), cominciano a bruciare spontaneamente, provocando una grande esplosione che coinvolge circa 55 kg. di HE. L'esplosione causa una piccola contaminazione.

29 Novembre 1963 - (incidente unità navale nucleare) Atlantic: A U.S. Navy tanker and a runaway barge each loaded with gasoline collide at New Orleans, Louisiana, putting an eight-foot gash in the side of the tanker.

16 Dicembre 1963 - (incidente unità navale nucleare) Atlantic: The USS Essex (CVS-9) en route to the United States is struck by two heavy waves while west of the Azores, causing a radar mast to snap. The mast falls to the deck, damaging both the radar and aircraft.

20 Dicembre 1963 - (incidente unità navale nucleare) Atlantic: The second Royal Navy nuclear-powered attack submarine HMS Valiant suffers a fire at the Vickers-Armstrong Yard at Barrow-in-Furness, U.K., while the ship is fitting out after being launched on 3 December. The fire is in the reactor compartment in a wooden structure where workers change their clothing. Mr. R. M. Nicholson, the shipyard general manager, says there is no nuclear hazard since the core of the reactor was not installed.

1964 - Prima esplosione nucleare cinese

1964 - Garigliano (Italia). Guasto al sistema di spegnimento di emergenza del reattore.

1964 - Germania, Repubblica federale: vernice di trizio An incident in West Germany involving radiation exposure from tritium-containing paint caused one death from an exposure of 1,000 rad and 3 other significant exposures.

4 Gennaio 1964 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Trumpet tows a yacht.

10 Gennaio 1964 - (incidente unità navale nucleare) Atlantic: The USS Lake Champlain (CVS-39) loses 41 feet of its catwalk in a storm in the Virginia Capes area.

10 Gennaio 1964 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Tiptoe runs aground in the Clyde River, Scotland, coincidentally right in front of the house of the area's senior naval officer.

13 Gennaio 1964 - Cumberland, Maryland, USA. Un bombardiere B- 52, con due missili nucleari a bordo, si schianta al suolo. A B-52D bomber carrying two nuclear weapons crashed approximately 17 miles southwest of Cumberland, Maryland. The nuclear weapons were being transported in a tactical ferry configuration, meaning that no mechanical or electrical connections had been made from the bombs to the aircraft. The bomber was en route from Westover Air Force Base in Chicopee Falls, Massachusetts, to its home base at Turner Air Force Base in Albany, Georgia, when it encountered violent turbulence. During an altitude change from 29,500 to 33,000 feet, the aircraft encountered more violent air turbulence and suffered structural failure. Both weapons were recovered relatively intact.

14 Gennaio 1964 - (incidente unità navale nucleare) : The Royal Navy cable ship HMS Bullfinch runs aground.

24 Gennaio 1964 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Hermes suffers a fire, believed to be caused deliberately.

31 Gennaio 1964 - Salisbury, Pennsylvania and Frostburg, Maryland, USA – Accidental loss and recovery of thermonuclear bombs. A B-52 on airborne alert duty encountered a severe winter storm and extreme turbulence, ultimately disintegrating mid-air over South Central Pennsylvania[23]. Only the two pilots survived. One crew member failed to bail out and the rest succumb to injuries or exposure to the harsh winter weather. A search for the missing weapons was initiated, and recovery was effected from portions of the wreckage at a farm northwest of Frostburg, MD.

9 Febbraio 1964 - (incidente unità navale nucleare) : The USS Blue Jacket (T-AF-51) collides with the German fishing boat Coaster Dirk, killing six of the fishing boat's seven-member crew.

10 Febbraio 1964 - (incidente unità navale nucleare) Pacific: The Royal Australian Navy destroyer Voyager sinks after colliding with the Australian aircraft carrier Melbourne off New South Wales, killing 82.

16 Febbraio 1964 - (incidente unità navale nucleare) Pacific: An A3J Vigilante aircraft crashes aboard the USS Hornet (CVS-12) operating in the Pacific before the barricade could be rigged, killing the pilot and injuring two crew members.

3 Marzo 1964 - (incidente unità navale nucleare) Atlantic: The USS Newman K. Perry (DD-883) collides with a sulfur barge in Tampa Bay, Florida, sinking the barge and flooding the destroyer from stem to Frame 8.

11 marzo 1964 - (incidente unità navale nucleare) Atlantic: The USS Searcher (AGR-4), on station off the U.S. east coast, loses a propeller in heavy seas. A Coast Guard ship takes the Searcher in tow.

27 Marzo 1964 - (incidente unità navale nucleare) Atlantic: The USS Antares (T-AKR-294) suffers a fire 40 miles off North Carolina.

1 Aprile 1964 - (incidente unità navale nucleare) Atlantic: During night flight operations, the Number 3 elevator of the USS Randolph (CVS-15) tears loose from its mountings, dropping five men and a S-2F Tracker antisubmarine warfare plane into the Atlantic. Only three men are rescued.

2 Aprile 1964 - (incidente unità navale nucleare) Atlantic: The USS Harlan R. Dickson (DD-708) runs aground a mile east of Deer Island Light off Boston, Massachusetts. The ship is refloated in two hours with damage to screws, the sonar dome, and plating.

2 Aprile 1964 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Nubian is in a collision.

4 Aprile 1964 - (incidente unità navale nucleare) Atlantic: The USS General Simon B. Buckner (AP-123) collides with a Liberian freighter in high winds in the harbor at Upper Bay, New York.

16 Aprile 1964 - (incidente unità navale nucleare) Pacific: The USS Mission San Antonio (AO-119) and a small South Korean fishing craft collide off the west coast of Korea in foggy weather. There is no damage to the tanker and five Koreans are rescued, but two are killed.

21 Aprile 1964 - Un satellite di navigazione americano manca la propria orbita e rientra nell'atmosfera a 150.000 piedi al di sopra dell'Oceano Indiano. Il generatore nucleare del satellite contiene 17 kCi di Plutonio 238, che brucia almeno parzialmente prima di rientrare nell'atmosfera. Quattro mesi più tardi si rileva un aumento del tasso di Pu238 nella stratosfera. Si stima che circa 16 kCi di Pu 238 si sono dispersi nell'atmosfera fino al 1970. Secondo l'EPA (Environmental Protection Agency), la contaminazione in Pu 238 dei polmoni umani (0,06 mrem) dovuta al lancio fallito è sensibilmente inferiore a quella risultante dalle ricadure degli esperimenti delle armi nucleari negli anni 1950 (0,35 mrem). A U.S. Transit-5BN-3 nuclear-powered navigational satellite failed to reach orbital velocity and began falling back down at 150,000 feet (46 km) above the Indian Ocean. The satellite's SNAP generator contained 16 kCi (590 TBq) of 238Pu, which at least partially burned upon reentry. Increased levels of 238Pu were first documented in the stratosphere four months later. The EPA estimated the abortive launch resulted in little 238Pu contamination to human lungs (0.06 mrem or 0.6 μSv) compared to fallout from weapons tests in the 1950s (0.35 mrem or 3.5 μSv) or the EPA's Clean Air Act airborne exposure limit of 10 mrem (100 μSv).[24][25] All subsequent Transit satellites were fitted with solar panels

6 Maggio 1964 - (incidente unità navale nucleare) Atlantic: The USS Lake Champlain (CVS-39) and USS Decatur (DD-936) collide in the Atlantic 150 miles east of Cape Henry, Virginia. The Decatur sustains heavy damage to its superstructure, but there are no personnel injuries.

22 Maggio 1964 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Cavalier is damaged in a collision.

3 Giugno 1964 - (incidente unità navale nucleare) Atlantic: The USS Lake Champlain (CVS-39) collides with the Norwegian freighter Skauvaag in the Chesapeake Bay. There are no injuries.

12 Giugno 1964 - (incidente unità navale nucleare) Pacific: The USS Bon Homme Richard (CVA-31) suffers a major propulsion system casualty while participating in an exercise about 160 miles southwest of Sasebo, Japan. The casualty results in the loss of 50 percent propulsion capability.

12 Giugno 1964 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Puma suffers a fire.

13 Giugno 1964 - (incidente unità navale nucleare) Atlantic: Fire damages the hull of the USS Haddock (SSN-621) still under construction at Pascagoula, Mississippi. Captain John B. Guerry, supervisor of shipbuilding for the Navy, said no radioactive material was installed in the Haddock.

13 Giugno 1964 - (incidente unità navale nucleare) Atlantic: A fire slightly damages the USS Randolph (CVS-15) while the ship is in Norfolk, Virginia.

26 Giugno 1964 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Diamond collides with the frigate HMS Salisbury.

28 Giugno 1964 - (incidente unità navale nucleare) Atlantic: The USS Sea Leopard (SS-483) suffers a fire in the forward engine room during overhaul at the Norfolk Naval Shipyard, Virginia.

1 Luglio 1964 - (incidente unità navale nucleare) Atlantic: The USS Henry Clay (SSBN-625) runs aground on a shoal in the mouth of the James River and is pulled free an hour later by two tugs. The submarine was en route from Newport News, Virginia, across Hampton Roads to pick up Deputy Secretary of Defense Cyrus Vance in Norfolk, Virginia. No damage is reported.

23-24 Luglio 1964 - Charlestown, Rhode Island, Usa. Incidente al reattore Wood River: un morto
The accident occurred at a facility which reprocessed for recovery highly enriched uranium in scrap material from fuel element production. A tank containing uranium (93% U-235) in sodium carbonate solution was being agitated by a stirrer. A worker, intending to add a bottle of trichloroethane to remove organics, erroneously added a bottle of uranium solution to the tank, producing a criticality excursion accompanied by a flash of light and the splashing of about 20% of the tank's contents (about 10 liters out of 40-50 liters, including the bottle contents) out of the tank. The worker fled to the site's emergency building. Two plant administrators returned to the building; one turned off the agitator, producing a lesser criticality excursion that was not recognized until their dosimeters were examined. The administrators incurred doses of 100 rads and 60 rads. The worker absorbed about 10,000 rads and died 49 hours after the accident.

26 Luglio 1964 - (incidente unità navale nucleare) Pacific: A suddenly intensifying storm causes damage to three navy ships anchored in Buckner Bay, Okinawa. The USS George Clymer (APA-27) and the USS Eldorado (AGC-11) collide after dragging their anchors, and the USS Weiss (APD-135) is grounded when the anchor chain parts. There are no injuries.

15 Agosto 1964 - (incidente unità navale nucleare) : The Royal Navy depot ship HMS Tyne experiences a flooded magazine.

5 Settembre 1964 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Lion collides with the frigate HMS Lowestoft.

11 Settembre 1964 - (incidente unità navale nucleare) Pacific: A rocket motor used to boost aircraft explodes aboard the USS Constellation (CVA-64) while the ship cruises in the South China Sea, killing one and injuring three.

12 Settembre 1964 - (incidente unità navale nucleare) : Flooding damages the command ship USS Wright (CC-2), the National Emergency Command Post Afloat, including the steering compartments so that the ship has no rudder control and can only maneuver with the aid of tugs.

29 Settembre 1964 - (incidente unità navale nucleare) Atlantic: The USS Franklin D. Roosevelt (CVA-42) sustains damage to its Number 1 propeller during normal operations in the Mediterranean. The USS Independence (CVA-62) relieves the Roosevelt on Mediterranean duty and it returns to the U.S. to drydock.

29 Settembre 1964 - (incidente unità navale nucleare) Pacific: An explosion aboard the USS Sproston (DD-577) in Pearl Harbor, Hawaii, is caused by a short circuit during work on an indicator light. The propellant in a rocket ignites and the magazine is flooded to prevent further damage. Three people are extensively burned.

8 Ottobre 1964 - (incidente unità navale nucleare) Pacific: Three U.S. Navy officers and three Filipino civilian workers are killed in an explosion and fire aboard the floating drydock AFDM-8 at Guam.

13 Ottobre 1964 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Ark Royal suffers an electrical fire when an electrical circuit is tested, which in turn ignites some cardboard boxes in a storeroom, while the ship is in a Devonport, U.K., dockyard undergoing a refit.

15 Ottobre 1964 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Keppel suffers damage.

16 Ottobre 1964 - Poligono di Lop Nor, provincia di Sinkiang, Cina. La Cina fa esplodere la sua prima bomba atomica.

3 Novembre 1964 - (incidente unità navale nucleare) Atlantic: The Canadian aircraft carrier Bonaventure suffers an explosion and fire in a refrigeration unit while the ship is undergoing refit in Saint John, New Brunswick, Canada, killing one dock worker and injuring four.

5 Dicembre 1964 - Ellsworth Air Force Base, Rapid City, South Dakota. A retrorocket located below an LGM 30B Minuteman I missile's Reentry Vehicle (RV) fired while two repairmen were working nearby, sending the reentry vehicle crashing down to the bottom of its silo. The arming and fusing/altitude control subsystem containing the RV's batteries were torn loose on impact, removing all sources of power from the RV and causing it considerable damage. The missile's safety devices operated properly and did not allow the warhead to become armed. The Minuteman I was on strategic alert.

8 Dicembre 1964 - Base Bunker Hill (ora Grissom) dell' Air Force, Perù, Indiana, USA. Un bombardiere B-58 perde il controllo ed esce dalla pista durante la fase di decollo, causando un incendio ad una parte delle cinque bombe nucleari presenti a bordo. Non seguono detonazioni e la contaminazione è limitata all'area circostante l'incidente.

1965 - Illinois, USA: incidente di irraggiamento An accident at an industrial accelerator-type irradiator exposed one person to a localized dose of 29,000-240,000 rad. Radiation injury required amputation of one arm and one leg.

Metà anni '60 - (incidente unità navale nucleare) Undated but after 1964 when it was commissioned -- The USS Von Steuben (SSBN-632) suffers a reactor scram while the diesel engine is disassembled for maintenance. Large amounts of electricity are needed for areactor restart, and the battery is exhausted without restartingthe reactor. The submarine wallows on the surface for at leastseveral hours as the diesel motor is reassembled by flashlight.

1965 / 1980 – Stati Uniti. Dal 1965 al 1980 sono stati trafugati almeno 300 chili di ²³⁵U e 70 di ²³⁹Pu dagli impianti nucleari statunitensi

Gennaio 1965 - Livermore, California, USA. Un incidente al Lawrence Livermore National Laboratory libera 300 kCi di sostanza radioattiva (gas di trizio)

9 Gennaio 1965 - (incidente unità navale nucleare) Atlantic: The USS Ethan Allen (SSBN-608) collides with the Norwegian freighter Octavian in the eastern Mediterranean while at periscope depth. The U.S. Department of Defense says "damage was negligible," no casualties occurred, and both the submarine andthe freighter continued on their way afterexchanging identification.

16 Gennaio 1965 - (incidente unità navale nucleare) Pacific: The USS Whitehurst (DE-634), a Naval Reserve Training Ship, collides with the Norwegian freighter Hoyander at the entrance of Vancouver harbor 2,500 yards west of the Lions Gate Bridge, British Columbia, Canada, in dense fog at night as bothships are leaving the harbor. Both ships are grounded and the Whitehurst is holed in the stern. The Whitehurst is refloated the next day.

27 Febbraio 1965 - (incidente unità navale nucleare) Pacific: A plane from the USS Midway (CVA-41) is inadvertently shot down by a USS Preble (DLG-15) missile when it overflies the missile range during southern California maneuvers for the "Silver Lance" exercise. The pilot is killed.

15 Aprile 1965 - (incidente unità navale nucleare) Pacific: The USS Ranger (CVA-61) suffers an engine room fire off South Vietnam, killing one.

16 Giugno 1965 - (incidente unità navale nucleare) Atlantic: The USS Hartley (DE-1029) collides with the Norwegian merchant man Blue Master off Cape Henry, Virginia. Its engine roomfloods as a result and the Hartley is towed to Norfolk, Virginia, by the USS Kiowa (ATF-72).

20 Giugno 1965 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Hermes suffers damage to a number of gauges while the ship is undergoing a major refit at Devonport, U.K. Sabotage is suspected.

9 Luglio 1965 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Orpheus is in a collision.

13 Luglio 1965 - (incidente unità navale nucleare) Pacific: The USS Medregal (SS-480) collides with the Lebanese merchant ship The Rodos in the South China Sea suffering some damage in international waters 18 miles south of Hainan island. TheU.S. Department of Defense says the

submarine was on routine operations, but China claims the incident took place within its territorial waters.

14 Luglio 1965 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Tiptoe collides with the frigate HMS Yarmouth.

17 Luglio 1965 - (incidente unità navale nucleare) Pacific: The USS Frank Knox (DDR-742) runs aground on Pratas Reef in the South China Sea while underway to Taiwan. The ship is pulled free on 22 August.

21 Luglio 1965 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Devonshire suffers an engine fault.

24 Luglio 1965 - (incidente unità navale nucleare) Atlantic: The fishing trawler Snoopy explodes apparently after snagging a torpedo off the North Carolina coast, killing eight.

26 Agosto 1965 - (incidente unità navale nucleare) Atlantic: The USS Shangri-La (CVA-38) and USS Newman K. Perry (DD-883) collide off Sardinia, killing one sailor and injuring another on the destroyer. The Perry's bow is crushed and twisted to starboard. Both are repaired at Naples and return to duty with the Sixth Fleet.

22 Settembre 1965 - (incidente unità navale nucleare) Atlantic: The United Kingdom announces that HMS Dreadnought, its first nuclear-powered submarine, will be withdrawn from service due to metal failures which involve hairline cracks in its internal bulkheads. The submarine returns to service on 2 February 1966 modifications are made to the hull.

Ottobre 1965 - Rocky Flats Plant, nord ovest di Denver, Colorado, USA. Un incendio durante un rifornimento di carburante di un aereo espone 25 persone ad un limite di radiazione, 17 volte superiore a quello legale.

11 Ottobre 1965 - Base Wright-Patterson dell'Air Force, vicino Dayton, Ohio, USA. Un aereo C-124 da trasporto contenente componenti di armi nucleari e un modello per l'addestramento, prende fuoco mentre viene rifornito. Il fuoco comincia a bruciare nella parte finale del rimorchio di rifornimento e distrugge la fusoliera dell'aereo. Non ci sono vittime e le conseguenze del pericolo di radiazioni sono minime.

12 Ottobre 1965 - (incidente unità navale nucleare) Atlantic: The USS Franklin D. Roosevelt (CVA-42) and the French merchant man Charles le Borgne collide off southern France. The carrier sustains little damage and continues its participation in "Lafayette IX," a two-day bilateral U.S.-French exercise in the western Mediterranean. The merchantman sustains minor structural damage and proceeds under its own power to Marseilles escorted by the USS Douglas H. Fox (DD-779).

13 Ottobre 1965 - (incidente unità navale nucleare) Pacific: The USS Barb (SSN-596) and USS Sargo (SSN-583) collide while on maneuvers 15 miles west of Oahu, Hawaii. Minor damage resulted to the forward end of one submarine and to the mast and sail of the other, but there were no injuries and both ships returned to port under their own power.

29 Ottobre 1965 - Isola Amchitka, Nord Pacifico, Alaska (USA). Test nucleare, con la detonazione di una bomba da 80 kiloton (Long Shot), nel sottosuolo dell'isola ad una profondità di 700 metri.

30 Ottobre 1965 - (incidente unità navale nucleare) Pacific: The Royal Navy aircraft carrier HMS Ark Royal suffers a fire in a boiler room, which causes considerable damage to wiring and other equipment and puts the ship out of operation for three weeks while the ship is undergoing routine overhaul in a Singapore dockyard.

5 Dicembre 1965 - (incidente unità navale nucleare) Pacific: At 2:50 p.m. local time, while the USS Ticonderoga (CVA-14) is en route from operations off Vietnam to Yokosuka, Japan, an A-4E aircraft of Attack Squadron 56 loaded with one B43 nuclear weapon goes overboard. The aircraft was being rolled from the Number 2 Hangar Bay to the Number 2 Elevator when it rolled off the elevator with the pilot Lieutenant Junior Grade D. M. Webster and the bomb and sank in 2700 fathoms of water. Searchers fail to find the pilot. The Department of Defense states this accident took place "more than 500 miles from land" when it reveals the accident in 1981. However Navy documents show the accident occurred about 80 miles east of the Japanese Ryukyu Island chain and 250 miles south of Kyushu Island, Japan, and about 200 miles east of Okinawa.

5 Dicembre 1965 – Isole Ryukyu (Giappone). Un jet militare d'attacco americano A-4E Skyhawk con a bordo una bomba all'idrogeno B-43 scivola in mare dalla portaerei statunitense Ticonderoga vicino alle isole giapponesi Ryukyu. Il pilota, l'aereo, e la bomba scompaiono. La bomba viene perduta approssimativamente ad una profondità di circa 5.000 m., ed i funzionari del Pentagono temono che l'intensa pressione dell'acqua possa causare l'esplosione della bomba B-43 all'idrogeno. E' ancora sconosciuto se l'esplosione sia davvero avvenuta. L'aereo della portaerei Usa Ticonderoga era di ritorno da una missione nel nord del Vietnam, a conferma dell'introduzione di armi nucleari nella Guerra del Vietnam. La scoperta dell'incidente avvenne solo nella metà degli anni 80.

6 Dicembre 1965 - (incidente unità navale nucleare) Atlantic: The USS Bushnell (AS-15) suffers a major fire in the Gulf of Mexico. The fire is extinguished with the aid of the USS Penguin (ASR-12).

7 Dicembre 1965 - (incidente unità navale nucleare) Pacific: Fire breaks out in a machinery room on the USS Kitty Hawk (CVA-63) in the South China Sea, killing two and injuring 28. An ammunition magazine is flooded as a precautionary measure.

13 Dicembre 1965 - (incidente unità navale nucleare) Atlantic: An aircraft fuel tank ruptures on takeoff from the USS Independence (CVA-62) starting a fire 220 miles southeast of Norfolk, Virginia, injuring 15.

20 Dicembre 1965 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Dreadnought suffers a fire in its control room while undergoing repairs at Rosyth, Scotland. It is quickly put out by the crew.

30 Dicembre 1965 - Mol, Belgio: criticità di incidente con uranio in acqua The VENUS research reactor used uranium dioxide fuel rods containing 7% enriched uranium in a tank of water; at the time of the accident, 30% of the water was heavy water. During manipulation of control rods, an operator erroneously began extracting a control rod before reinserting another. The operator observed a glow in the bottom of the reactor, immediately dropped the control rod and left the room. His left foot, which was over the reactor at the time of the accident, absorbed 1750-4000 rem and had to be amputated; the dose to his chest was about 500 rem.

31 Dicembre 1965 - (incidente unità navale nucleare) Pacific: Mid 1960s -- the New York Times (5/25/75) reports that at a mid-1960s briefing on a naval intelligence gathering operation,

codenamed Holystone, a U.S. official is shown a photograph of the underside of a Soviet Echo class nuclear powered submarine apparently taken inside Vladivostok harbor. He recalls being told the submarine scraped the bottom of a Soviet Echo class submarine and knocked off some of its equipment during this mission. Briefing participants are told this happened at least two other times as well (see 5/25/75 entry).

1966 - Belgio. Il fisico Ferdinand Janssen intossicato viene portato all'ospedale Curie di Parigi.

14 Gennaio 1966 - (incidente unità navale nucleare) Pacific: The USS General Daniel I. Sultan (T-AP-120) suffers extensive hull damage and a ruptured fuel tank when it runs aground in shoal water west of Okinawa. No casualties are reported. The Sultan is refloated on 15 January.

17 Gennaio 1966 – Palomares (Spagna). Un B-52 statunitense con quattro bombe all'idrogeno B-28 entra in collisione con un aereo cisterna durante il rifornimento in volo (il bombardiere stava attendendo il suo terzo rifornimento con un aereo cisterna KC-135 dalla base americana a Morton, quando il boccheggio del braccio per il rifornimento dell'aereo cisterna urta il bombardiere. Il braccio squarcia il B-52 lungo il suo dorso, spezzando il bombardiere in vari pezzi. I 151.00 litri di rifornimento del KC-135 vanno a fuoco, uccidendo sette uomini dell'equipaggio). I due aerei precipitano e tre bombe a idrogeno (bombe H) cadono nei pressi di Palomares, mentre la quarta cade in mare. L'esplosivo di due delle tre bombe, a contatto col suolo, detona spargendo su una vasta area plutonio e altro materiale radioattivo (4,5 kg di plutonio su 250 ettari). I rottami dell'incidente cadono in un'area approssimativamente di 161 km. quadrate di suolo e acqua. In tre mesi vengono raccolte 1.400 tonnellate di terra e vegetazione radioattiva che vengono portate negli Stati Uniti. Mentre i militari statunitensi sono forniti di tute protettive, gli spagnoli continuano a vivere tranquillamente e a coltivare i terreni. Un monitoraggio effettuato nel 1988 su 714 abitanti ha rivelato in 124 di loro una concentrazione di plutonio nelle urine di gran lunga superiore ai livelli normali. La bomba affondata nel Mediterraneo ha dato luogo ad una delle più grandi ricerche e operazioni di recupero nella storia. La ricerca durò circa otto giorni e impiegò 3.000 uomini del personale della marina e 33 navi, senza contare le barche, gli aeroplani, e il personale usato per portare l'equipaggiamento sul luogo. Benché il piccolo sottomarino "Alvin" avesse localizzato la bomba dopo due settimane, non fu recuperata prima del 7 aprile.

19 Gennaio 1966 - (incidente unità navale nucleare) Atlantic: An "actual nuclear incident" occurs when the nuclear warhead on a Terrier anti-air missile separates from the missile and drops about eight feet on the USS Luce (DLG-7) while the ship is docked at Mayport Naval Station, Florida. It is recorded "there were no personnel casualties, and aside from the dent in the warhead, no equipment was damaged."

22 Gennaio 1966 - (incidente unità navale nucleare) Atlantic: The missile tracking ship USS American Mariner (AGM-12) runs aground off Cape Kennedy, Florida.

23 Gennaio 1966 - (incidente unità navale nucleare) Pacific: A U.S. Navy tank landing ship (LST) explodes while docked in Kawasaki, Japan, killing four Japanese workers.

27 Gennaio 1966 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) is extensively damaged during a storm in the Caribbean.

4 Febbraio 1966 - (incidente unità navale nucleare) Pacific: The USS Brinkley Bass (DD-887) and USS Waddell (DDG-24) are heavily damaged in a collision while forming for operations in the Gulf of Tonkin.

11 Marzo 1966 - (incidente unità navale nucleare) Pacific: The USS Summit County (LST-1146) runs aground while entering the inner harbor at Chu Lai, South Vietnam, puncturing the hull plating and flooding the main engine room.

23 Marzo 1966 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Juno suffers a fire.

5 Aprile 1966 - (incidente unità navale nucleare) : The USS Alamo (LSD-33) and USS Kawishiwi (AO-146) collide during underway replenishment at sea.

21 Maggio 1966 - (incidente unità navale nucleare) Pacific: The USS Coral Sea (CVA-43) and the USS Iwo Jima (LPH-2) brush briefly in San Diego, California, causing slight damage.

22 Maggio 1966 - (incidente unità navale nucleare) Atlantic: The Royal Navy survey ship HMS Vidal collides with the freighter Hong Kong Fair in the mid-Atlantic. Both are damaged, but stay afloat.

27 Maggio 1966 - (incidente unità navale nucleare) Pacific: The USS Mars (AFS-1) is slightly damaged in a collision with the merchant ship Seiwa Maru in dense fog at the entrance to Tokyo Bay, Japan.

3 Giugno 1966 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Galatea is in a collision.

4 Giugno 1966 - (incidente unità navale nucleare) Pacific: The USS Banner (AKL-25) collides with the Soviet vessel Anemometer in the Sea of Japan. Both ships suffer minor damage.

25 Giugno 1966 - (incidente unità navale nucleare) Atlantic: USS Stalwart (MSO-493) explodes, burns, capsizes, and sinks at a pier in San Juan, Puerto Rico. The minesweeper is later towed to Norfolk, Virginia.

29 Giugno 1966 - (incidente unità navale nucleare) Pacific: The Royal Navy destroyer HMS Cambrian's accidental firing on a Hong Kong village is investigated.

2 Luglio 1966 - Mururoa (Oceano Pacifico - Francia). Test nucleare: viene fatta esplodere una bomba nucleare di 30 chiloni, più potente della bomba all'uranio che sconvolse Hiroshima.

10 Agosto 1966 - (incidente unità navale nucleare) Atlantic : Cracks in welds are discovered in the Royal Navy nuclear-powered attack submarine HMS Valiant during the final stages of its construction at Barrow-in-Furness, U.K. British steel firms say the cracks do not represent a serious structural failure and are not dangerous to the vessel or its crew.

11 Agosto 1966 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Tiger fires a dummy shell into a dock wall.

19 Agosto 1966 - (incidente unità navale nucleare) Atlantic : The USS Raleigh (LPD-1) bumps the cruise liner France at the Hudson River pier in New York City, none are hurt.

30 Agosto 1966 - (incidente unità navale nucleare) Indian: The Royal Navy diesel submarine HMS Rorqual suffers an explosion off Mozambique while en route to Singapore, killing two and injuring 20.

Settembre 1966 - Livermore, California, USA. Fuga di plutonio al Lawrence Livermore National Laboratory

1 Settembre 1966 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Devonshire is in a collision.

14 Settembre 1966 - (incidente unità navale nucleare) Atlantic: The West German training diesel submarine Hai sinks in the North Sea in 140 feet of water 175 miles northwest of Wilhelmshaven, West Germany, during a storm, killing 19.

15 Settembre 1966 - (incidente unità navale nucleare) Atlantic: The HMS Resolution, the Royal Navy's first Polaris nuclear-powered ballistic missile submarine, is launched at Barrow-in-Furness, England. A week later cracks are reported to be found in the steel hull similar to cracks found in other nuclear submarines built in Britain. The cracks occur in thick steel welding. The Navy has known about the cracks ever since it was discovered that the original specification for steel for the submarines was not of high enough standard. The cracks do not mean the submarines will not go to sea, but if there are too many the metal will have to be rewelded. And, if cracks develop quicker than expected, Polaris submarines would require excessive amounts of welding when they come in for refits between patrols.

16 Settembre 1966 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Relentless suffers a fire.

24 Settembre 1966 - Fangataufa, Polinesia Francese (Oceano Pacifico): test nucleare

Ottobre 1966 - Lagoona Beach (Usa). Alcune piastre di protezione si staccano e bloccano il circuito di raffreddamento del reattore autofertilizzante Enrico Fermi (61 Mw) per cui si ha surriscaldamento; il dispositivo di arresto automatico non funziona; il reattore riprende la sua attività soltanto nel 1970; e nel 1972 viene fermato definitivamente.

5 Ottobre 1966 - Monroe, Michigan (USA). Parziale meltdown alla Enrico Fermi Nuclear Generating Station per cattivo funzionamento del sistema di raffreddamento al sodio. Contaminazione contenuta. Rimessa in funzione nell'ottobre 1970

5 Ottobre 1966 – Detroit (USA). Il nucleo di un reattore sperimentale situato in un impianto vicino a Detroit si surriscalda a causa di un guasto al sistema di raffreddamento.

26 Ottobre 1966 - (incidente unità navale nucleare) Pacific: A major fire on the USS Oriskany (CVA-34) occurs while the carrier is operating off Vietnam. The fire starts when a crewman panics and throws a flare, which had accidentally ignited while being moved, into a storage locker located at the forward starboard corner of Hanger Bay 1. The locker contains some 650 other flares, which ignite in turn. The resulting fire takes three hours to control, kills 44, destroys or damages six aircraft, and puts the carrier out of action for several months.

3 Novembre 1966 - (incidente unità navale nucleare) Pacific: The USS Tiru (SS-416) runs aground on Frederick Reef in the Coral Sea and is freed on 6 November.

4 Novembre 1966 - (incidente unità navale nucleare) Pacific: A flash fire occurs in a storage compartment containing oil and hydraulic fluid four decks below the hangar deck of the USS Franklin D. Roosevelt (CVA-42) while the ship is on station in the South China Sea, killing seven.

10 Novembre 1966 - (incidente unità navale nucleare) Atlantic: The USS Nautilus (SSN-571) collides with the USS Essex (CVS-9) while running submerged about 350 miles east of Morehead City, North Carolina, during underway replenishment exercises. Both ships return to port unassisted. The submarine receives extensive damage to its sail area and goes to New London, Connecticut. The carrier sustains an open hull cut in the bow area and proceeds to Norfolk, Virginia.

7 Dicembre 1966 - (incidente unità navale nucleare) Pacific: The USS Manley (DD-940) suffers an accidental shell explosion and small fire while in South Vietnam, injuring three.

30 Dicembre 1966 - (incidente unità navale nucleare) Pacific: The USS Mahan County (LST-912) runs aground at Chu Lai, South Vietnam. The ship is decommissioned and abandoned on 31 January 1967 after four weeks of unsuccessful salvage efforts.

31 Dicembre 1966 - (incidente unità navale nucleare) Arctic: In the late 1960's (1966-67 according to some accounts), the Soviet nuclear-powered icebreaker Lenin experiences a reactor meltdown according to raw CIA intelligence reports, or at least a "nuclear related casualty" according to the U.S. Navy. The CIA reports suggest that up to 30 people may have died and many others were affected by radiation sickness. The ship is abandoned for over a year before work to replace the Lenin's three reactors with two begins.

31 Dicembre 1966 - (incidente unità navale nucleare) Arctic: According to raw CIA intelligence reports, around 1966, a leak occurs "in the reactor shielding of a [Soviet] nuclear submarine home based in Polyarnyy" on the Kola Peninsula. "As the submarine entered the port the captain requested permission to proceed directly to the shipyard. Permission was not granted but the captain took the vessel there none the less.... A 'special brigade' was formed to repair the submarine and part of the crew was sent to a special center on an island near Murmansk where naval personnel with radiation sickness were sent to be treated.... Those sent to the island did not come back."

31 Dicembre 1966 - (incidente unità navale nucleare) Arctic: According to raw CIA intelligence reports, the Soviet November class nuclear-powered attack submarine, Leninskyj Komsomol, burns near the North Pole sometime in 1966-68. "The accident involved crew members being burned inside a bulkhead that was locked from the outside on both sides. The fire was caused by a spark of oxygen and did not involve the propulsion unit." The submarine was saved. The submarine "was one of several submarines which reached the North Pole under ice. The expedition was publicized in the Soviet press at the time without mention of the incident."

1966-1977 - Europe: 10 terrorist incidents against European nuclear installations

1967 - Trino Vercellese (Italia). Fessurazione di una guaina d'acciaio di una barra di combustibile con conseguente chiusura della centrale per 3 anni. Per buona parte di questo tempo la centrale ha scaricato nelle acque del Po trizio radioattivo.

1967 - Francia. Fusione di elementi combustibili nel cuore del reattore di Siloe (Grenoble). Ciò provoca la liberazione di Iodio 131 e Cesio 137 nell'acqua di raffreddamento del reattore. Si liberano gas radioattivi nell'aria.

3 Gennaio 1967 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Caprice suffers a breakdown.

10 Gennaio 1967 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Amphion is in a collision.

15 Gennaio 1967 - (incidente unità navale nucleare) Pacific: The South Korean destroyer-escort Chungnam-Ho and ferry Hanil-Ho collide off South Korea, sinking the ferry, killing atleast 13, with over 60 missing.

15 Gennaio 1967 - (incidente unità navale nucleare) Pacific: A U.S. Navy minesweeper is hit by the freighter Muifinh in Saigon harbor, South Vietnam, and sinks.

27 Gennaio 1967 - (incidente unità navale nucleare) Atlantic: The USS Essex (CVS-9) runs aground during training operations five miles off Puerto Rico.

2 Febbraio 1967 - (incidente unità navale nucleare) Pacific: The USS McMorris (DE-1036) and USS Tombigbee (AOG-11) collide during a training exercise 75 miles southeast of Honolulu, Hawaii, killing two and injuring seven.

4 Febbraio 1967 - (incidente unità navale nucleare) Atlantic: The USS Clamagore (SS-343) collides with the catamaran Mango outside of San Juan harbor, Puerto Rico.

11 Febbraio 1967 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Walrus suffers a fire.

15 Febbraio 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarines HMS Orpheus and HMS Opportune collide at the entrance to Portsmouth harbor, U.K., in darkness and heavy weather.

9 Marzo 1967 - (incidente unità navale nucleare) Pacific: A U.S. Navy river patrol boat is rammed by a British freighter and split in two in the Saigon channel, South Vietnam.

13 Marzo 1967 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS London suffers a fire.

17 Marzo 1967 - (incidente unità navale nucleare) Pacific: A five-inch artillery shell accidentally explodes aboard the USS Manley (DD-940), causing a fire and injuring five off Da Nang, South Vietnam.

21 Marzo 1967 - (incidente unità navale nucleare) Atlantic: The USS La Salle (LPD-3) and the Israeli freighter Deganya are in a minor collision in fog off Cape Henry, Virginia.

24 Marzo 1967 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) and the USS Salamonie (AO-26) collide while refueling east of San Juan, Puerto Rico. No one was injured, but both ships took "moderate damage."

20 Aprile 1967 - (incidente unità navale nucleare) Pacific: An explosion occurs in a gun mount aboard the USS Bigelow (DD-942) operating in the Vietnam area, injuring six.

Maggio 1967 - Dumfries and Galloway, Scozia: parziale meltdown. Graphite debris partially blocked a fuel channel causing a fuel element to melt and catch fire at the Chapelcross nuclear power station. Contamination was confined to the reactor core. The core was repaired and restarted in 1969, operating until the plant's shutdown in 2004

10 Maggio 1967 - (incidente unità navale nucleare) Pacific: During joint maneuvers of Japanese and U.S. fleets taking place in the Sea of Japan the Soviet Kotlin class destroyer Besslednyi scrapes the USS Walker (DD-517) despite repeated warnings not to get too close. Both ships suffer minor damage.

10 Maggio 1967 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Hampshire suffers an explosion.

11 Maggio 1967 - (incidente unità navale nucleare) Pacific: For the second time in two days a Soviet destroyer and the USS Walker (DD-517) collide in the Sea of Japan. This second incident occurs when the Soviet destroyer "turned into and toward" the Walker, and, according to the U.S. Department of Defense announcement, the two ships "brushed together." The United States delivers what the Department of State describes as a severe protest over the incident, which again involved a Navy task force conducting antisubmarine warfare exercises.

26 Maggio 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Warspite suffers a water leak in one compartment while undergoing routine maintenance in Faslane, Scotland. The U.K. Ministry of Defense says the "defect is not connected in any way with her nuclear plant. Her damage is slight and there are no casualties. The leakage of water was brought quickly under control by Warspite herself."

28 Maggio 1967 - (incidente unità navale nucleare) Pacific: A 750-lb. bomb explodes during a loading operation on a Vietnam-bound ship at the U.S. Navy ammunition shipping piers at Naval Weapons Station, Concord, Port Chicago, California.

1 Giugno 1967 - (incidente unità navale nucleare) Atlantic: In June the Royal Navy assault ship HMS Intrepid suffers an overheated starboard turbine, necessitating 12 weeks of repair in Devonport, U.K.

12 Giugno 1967 - (incidente unità navale nucleare) Pacific: The USS Repose (AH-16) is superficially damaged and the USS Tappahannock (AO-43) is slightly damaged when they collide during routine underway replenishment operations off Vietnam.

16 Giugno 1967 - (incidente unità navale nucleare) Pacific: The USS Kitty Hawk (CVA-63) collides with the USS Platte (AO-24) during refueling west of San Francisco, California.

21 Giugno 1967: The Royal Navy frigate HMS Blackwood is damaged by ice floes.

22 Giugno 1967 - (incidente unità navale nucleare) Atlantic: A steam line ruptures aboard the USS Raleigh (LPD-1) as it is being repaired while the ship is moored at Norfolk Naval Air Station, Virginia, killing two.

29 Giugno 1967 - (incidente unità navale nucleare) Pacific: The USS Coconino County (LST-603) loses all propulsion and auxiliary power after suffering two underwater explosions while off-loading near Dong Ha, South Vietnam.

23 Luglio 1967 - (incidente unità navale nucleare) Atlantic: The USS Greenling (SSN-614) strikes a buoy off Hingham, Massachusetts. There is only minor damage and little interruption to training.

24 Luglio 1967 - (incidente unità navale nucleare) : The Royal Navy inshore minesweeper HMS Birdham suffers a fire.

29 Luglio 1967 - (incidente unità navale nucleare) Pacific: A Zuni rocket is inadvertently fired from one of several aircraft being readied for launch over Vietnam from the USS Forrestal (CVA-59). The rocket travels across the flight deck, strikes the fully-fueled drop tank of another aircraft, and explodes. The resulting fire kills 134, damages or destroys 63 aircraft, and puts the ship temporarily out of action.

31 Agosto 1967 - (incidente unità navale nucleare) Atlantic: The USS Simon Bolivar (SSBN-641) armed with 16 Polaris missiles collides with the target ship USS Betelgeuse (T-AK-260) when practicing a torpedo attack, 70 miles southeast of Charleston, South Carolina. No one is hurt, but the Bolivar suffers about \$1 million damage to its periscope and communications antennae. The Betelgeuse suffers a hole in its hull. The Navy tells a press conference that the missiles aboard the Bolivar were not armed and there was no danger of explosion or nuclear radiation. The missiles were undamaged the Navy emphasizes. The Bolivar surfaces and the crew cuts away a 4-foot-high, 15-foot-long section of the conning tower so the submarine could proceed to port.

5 Settembre 1967 - (incidente unità navale nucleare) Atlantic: The USS Corporal (SS-346) collides with the racing sloop Media IV in Block Island Sound off Rhode Island. The sloop's owner claims the submarine rammed the sloop and left without offering aid. The Navy says the submarine was stopped dead when hit.

10 Settembre 1967 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) suffers a fire in the combat information center while in drydock at the South Boston Annex of the Boston Naval Shipyard, causing minor damage.

1 Ottobre 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy assault ship HMS Intrepid sails for sea trials, but within 48 hours is forced to return to Devonport, U.K., when a leak develops in a steam pipe, taking five or six days to repair.

4 Ottobre 1967 - Harmarville, Pennsylvania, USA: incidente da irraggiamento A failure of interlocks on an industrial accelerator-type irradiator exposed three people to doses of 125-600 rem. The accident occurred at the Gulf Research Laboratory in Harmarville, near Pittsburgh. One worker received a 600-rem whole body dose, plus localized doses of 6600 rad to the feet and legs and 8800 rad to the hands and forearms. His hands and feet had to be amputated, but he survived largely due to a bone marrow transplant from his identical twin. Doses to the other workers were 300 rad and 125 rad. All three workers were protected from infection during recovery by reverse isolation.

18 Ottobre 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy assault ship HMS Intrepid suffers a fault in a valve in her main engines, taking several days to repair.

26 Ottobre 1967 - (incidente unità navale nucleare) Atlantic: The USS Lexington (CVS-16) hits a wharf three times in docking in New Orleans, Louisiana.

27 Ottobre 1967 - (incidente unità navale nucleare) Pacific: The USS Coral Sea (CVA-43) suffers a rocket explosion while operating in the Tonkin Gulf, off Vietnam, injuring nine.

5 Novembre 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered ballistic missile submarine HMS Repulse goes aground in Walney Channel, Barrow-in-Furness, U.K., 30 minutes after her launch at Vicker's shipyard. Seven tugs are required to pull her free. She thendocks at the fitting-out berth in Devonshire Dock, Barrow, U.K.

12 Novembre 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Victorious suffers a fire while at drydock in Portsmouth, U.K., wrecking part of the chief petty officers' mess and killing one.

21 Novembre 1967 - (incidente unità navale nucleare) Pacific: Navy ships arrive at the scene of the grounding of the USS Clarke County (LST-601) at Duc Pho, Vietnam, observing that the ship is now perpendicular to the beach with the bow directly into the sea and the stern anchored by two army tanks.

24 Novembre 1967 - (incidente unità navale nucleare) Atlantic: The U.S. nuclear-powered cargo ship Savannah springs a leak in its reactor auxiliary cooling system off New Jersey. The Atomic Energy Commission and the Maritime Administration say no radioactive materials escaped as a result of the leak. The ship returned to Hoboken, New Jersey, for repairs.

24 Novembre 1967 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Victorious suffers a fire, while in Portsmouth, U.K. It is confined to the tobacco store and damage is slight.

27 Novembre 1967 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Diamond suffers a fire.

18 Dicembre 1967 - (incidente unità navale nucleare) Pacific: The USS Kitty Hawk (CVA-63) suffers a three-hour fire which was centered in an airplane tire stowage area while the ship is docked in Subic Bay, Philippines.

23 Dicembre 1967 - (incidente unità navale nucleare) Pacific: The USS Kearsarge (CVS-33) suffers a fire while docked in Sasebo, Japan, for the holidays, killing three and injuring two.

24 Dicembre 1967 - (incidente unità navale nucleare) Pacific: The USS Guardfish (SSN-612) runs aground on a reef in Pearl Harbor, Hawaii. The Navy says the vessel rested on a World War II bomb which turned out to be a sand-filled practice bomb.

25 Dicembre 1967 - (incidente unità navale nucleare) Atlantic: The Observer (1/7/68) reports that speculation is circulating that a U.S. nuclear-powered ballistic missile submarine suffered serious damage during maneuvers in northern waters just before Christmas. The U.S. Navy declines to confirm or deny the reports which come from unidentified sources at the U.S. Naval Base in Rota, Spain, due to security reasons. In London it was suggested the damage was caused by pressure changes during a deep dive.

26 Dicembre 1967 - (incidente unità navale nucleare) Pacific: The USS Lynde McCormick (DDG-8) suffers an explosion while in Sasebo, Japan, injuring two.

31 Dicembre 1967 - (incidente unità navale nucleare) : Before January 1968, the USS Ronquil (SS-396) reportedly narrowly avoids capture by Soviet naval forces while engaged in a Holystone intelligence gathering mission. The submarine caught fire near the Soviet coast and was surrounded

by Soviet destroyers which attempted to force it to surface. The Ronquil eluded the Soviet ships and escaped to safety (also see 5/25/75 entry).

31 Dicembre 1967 - (incidente unità navale nucleare) Atlantic: In 1967 a Soviet November class nuclear-powered attack submarine has a mishap in the Mediterranean believed to be related to its propulsion system. The submarine is towed.

1968 - Den Haag (Olanda). Per un «errore tecnico» si libera nella centrale Up 2 del materiale radioattivo. La radioattività nell'aria della città supera di 100 volte i limiti «accettabili».

1968 - Francia. Il reattore di Monts Arreé si arresta per un incidente. Periodo di riparazione: 3 mesi.

1968 - Un sottomarino nucleare sovietico affonda nel Pacifico

Gennaio 1968 - Chooz (Belgio). Grave incidente nel reattore ad acqua leggera. La riparazione è durata 2 anni e 2 mesi. Nel 1970 il reattore è guasto di nuovo.

9 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The London Times reports that the Royal Navy nuclear-powered ballistic missile submarine HMS Resolution recently developed a defect in its electrical generator while on its final trials in the Atlantic before test missile firings at Cape Canaveral, Florida. On 8 January the submarine was on the surface sailing back to Faslane, Scotland, for repairs. U.K. officials said the repairs would not delay the Resolution's arrival at Cape Canaveral.

11 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The French trawler Fomalhaut catches the Royal Navy diesel submarine HMS Grampus in its nets in the English Channel. The Grampus surfaces and both crews spend more than three hours disentangling the nets, officials said.

13 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Alliance runs aground and is stuck for three days on a rocky ledge off the Isle of Wight in the English Channel.

21 Gennaio 1968 - Thule, Groenlandia, Danimarca. Quattro bombe nucleari sono distrutte in un incendio dopo che il B-52 che le trasportava si schianta a circa sette miglia a sud ovest della pista della base dell'Air Force di Thule in Groenlandia. Il B-52, proveniente dalla base Plattsburgh dell'Air Force di New York, si schianta dopo che un incendio si era sprigionato nel compartimento dell'ufficiale di rotta. Il pilota stava facendo rotta all'AFB di Thule per provare un atterraggio di emergenza. All'impatto con il suolo, l'aeroplano scoppia in fiamme, bruciando gli involucri esterni dell'alto esplosivo che rivestivano almeno una delle bombe. L'esplosivo detona, spargendo plutonio e altri materiali radioattivi su un'area di circa 280 m. ad entrambi i lati della traiettoria dell'aereo, in pezzi delle dimensioni di un pacchetto di sigarette. Il bombardiere era stato in volo sulla rotta del Circolo Artico nell'ambito dell'operazione di permanente allertamento dello Strategic Air Command, chiamata in codice "Chrome Dome". Un membro dell'equipaggio rimane ucciso nello schianto. Il governo della Danimarca, che possiede la Groenlandia e proibisce le armi nucleari all'interno e sopra il suo territorio, fece una forte protesta e seguirono grandi dimostrazioni di piazza. L'area venne successivamente bonificata da oltre 500 uomini inviati dalla Danimarca e da 200 militari statunitensi. Degli operatori radar scoprono che una bomba H contrassegnata dal numero 78252 manca: avrebbe attraversato la calotta di ghiaccio e sarebbe precipitata in fondo al Mar Artico. La bomba viene ritrovata a fine mese. Nei venti anni successivi, 100 dei danesi che avevano partecipato all'intervento si ammalano di cancro, altri di gravi malattie tra cui la sterilità. Pochi giorni dopo l'incidente, il segretario della difesa degli Stati Uniti Robert McNamara ordinò la

rimozione delle armi nucleari dall'allertamento aereo. Gli allertamenti stessi furono più tardi limitati e poi sospesi del tutto.

22 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The Israeli diesel submarine Dakar with 52 aboard disappears in the eastern Mediterranean 250 miles off Israel. The USS Turner (DDR-834), USS Conyngham (DDG-17), and USS CharlesH. Roan (DD-853) are subsequently diverted to search for the missing submarine, but it is not found.

27 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The French diesel submarine Minerve with 52 aboard sinks in the Mediterranean off Toulon.

30 Gennaio 1968 - (incidente unità navale nucleare) Atlantic: The USS Seawolf (SSN-575) runs aground while submerged approximately 65 miles east of Cape Cod, Massachusetts, and damages its rudder. There are no injuries and the submarine returns to Groton, Connecticut, for repairs.

31 Gennaio 1968 - (incidente unità navale nucleare) Pacific: The USS Rowan (DD-782) is slightly damaged when it is struck by the Soviet merchant ship Kapitan Visiobokov in the Sea of Japan about 100 miles east of Pohang, South Korea. There are no casualties, but the destroyer suffers a three-foot hole above the waterline in the port bow.

1 Febbraio 1968 - (incidente unità navale nucleare) Atlantic: Early 1968 (shortly after the Pueblo was seized on 22 January 1968) The USS Sergeant Joseph E. Muller (AG-171) loses power and drifts toward Cuban waters under emergency protection of combat air patrol. After several failures, the ship is towed to safety by its escorting destroyer.

6 Febbraio 1968 - (incidente unità navale nucleare) Pacific: A U.S. Navy rescue ship sinks after being hit by an errant Bullpup missile launched from an A-4 Skyhawk aircraft during firing exercises near Point Mugu, California. There are no injuries.

6 Febbraio 1968 - (incidente unità navale nucleare) Atlantic: The USS Bache (DD-470) drags anchor off Rhodes harbor, Greece, in hurricane force winds and runs aground on rocks, splitting the ship from stem to stern, but there are no serious injuries. On 17 February the ship suffers further damage in a two-day storm. The ship is so badly damaged, rather than refloated it is decommissioned on 26 February.

10 Marzo 1968 – Oceano Pacifico. Il sottomarino russo K-219 affonda nel Pacifico a 1.200 km. dalle coste di d'Oahu nell'arcipelago delle Hawaii. A bordo ha tre missili nucleari e due siluri a testata nucleare.

18 Marzo 1968 - (incidente unità navale nucleare) Atlantic: The USS Theodore Roosevelt (SSBN-600) runs aground while submerged off the coast of Scotland. There were no injuries, but the bow of the submarine is damaged.

Aprile 1968 - Napoli, Italia. Il sottomarino nucleare Scorpion si contra, nel porto di Napoli, sbattendo la poppa e il propulsore nucleare contro una chiatta subito affondata

5 Aprile 1968 - Chelyabinsk-70, Russia: criticità di incidente con uranio in assemblaggio A criticality accident occurred with an assembly comprised of a highly enriched uranium sphere (90% U-235) with a polyethylene-filled cavity in the center, all to be surrounded by a natural uranium reflector. Two experimenters were conducting an experiment comparable to one conducted earlier

in the day with no polyethylene in the core cavity, erroneously expecting little difference in the system performance. While lowering the upper hemisphere of the outer reflector, the system became critical and produced high power readings, prompting the emergency system to lower the lower hemisphere of the outer reflector, ending the excursion. The experimenters called for help and completed dose estimates. The individual closest to the assembly received a dose of 2000 to 4000 rem and died 3 days later; the other received a 500-1000 rem dose and died 54 days later.

9 Aprile 1968 - (incidente unità navale nucleare) Atlantic: The USS Robert E. Lee (SSBN-601) snags the nets of the French trawler Lorraine-Bretagne in the Irish Sea, causing the trawler to lose considerable amounts of fishing equipment. The submarine is undamaged.

11 Aprile 1968 - (incidente unità navale nucleare) Pacific: A Soviet diesel-powered Golf class ballistic missile submarine sinks about 750 miles north west of the island of Oahu, Hawaii, in about 16,000 feet of water, killing approximately 80. In late March 1975 numerous papers carry stories on the CIA's attempt, called "Project Jennifer," to raise the submarine in the summer of 1974 using the specially constructed Glomar Explorer deep-water salvage ship. Part of the submarine is raised on 4 July 1974. The submarine was carrying three nuclear-armed ballistic missiles and unnamed official sources are quoted as saying the evidence also suggests that nuclear-tipped torpedoes were on board.

13 Aprile 1968 - (incidente unità navale nucleare) Atlantic: The USS Independence (CVA-62) collides with the USS Wrangell (AE-12) off South Carolina during underway replenishment, damaging both ships slightly.

15 Aprile 1968 - (incidente unità navale nucleare) Atlantic: The USS Scorpion (SSN-589) collides with a barge during a storm in Naples harbor, Italy. The submarine was along side the barge which was used as a buffer between the submarine and another U.S. warship. The barge and the Scorpion's stern came together and then the barge was swamped and went down. The Scorpion returned to Naples on 20 April and divers descending to untangle a fishingline from its propeller made a partial inspection of it and reported no damage.

3 Maggio/Giugno 1968 - La Plata, Argentina: fonte compromessa A construction worker at a chemical plant discovered a 13-curie cesium-137 industrial radiography source and put it in his pants pocket for 17 hours (right pocket for 7 hours, left pocket for 10 hours), incurring a dose of 50 to 1,700 rads. This caused localized radiation injury; he was unable to work after 2 days, with radiation injury eventually involving permanent sterility and amputation of both legs. Another 17 coworkers were exposed to estimated doses of 40 rad.

9 Maggio 1968 - (incidente unità navale nucleare) Atlantic: The USS Guadalcanal (LPH-7) is a drift off North Carolina due to a burned out bearing in the propulsion system.

24 Maggio 1968 - Luogo sconosciuto. Loss of cooling, radioactive contamination, nuclear fuel damaged

During sea trials the Soviet nuclear submarine K-27 (Project 645) suffered severe problems with its reactor cooling systems. After spending some time at reduced power, reactor output inexplicably dropped and sensors detected an increase of gamma radiation in the reactor compartment to 150 rad/h. The safety buffer tank released radioactive gases further contaminating the submarine. The crew shut the reactor down and subsequent investigation found that approximately 20% of the fuel assemblies were damaged. The entire submarine was scuttled in the Kara Sea in 1981.

27 Maggio 1968 - (incidente unità navale nucleare) Atlantic: The USS Scorpion (SSN-589) sinks about 400 miles south west of the Azores, killing all 99 men on board. The U.S. Department of Defense reveals in 1981 that in the Spring of 1968 a nuclear weapons accident occurred in the Atlantic, the details of which remain classified. Despite the Pentagon's equivocation, this is taken to refer to the Scorpion and, nevertheless, it is generally known that two nuclear-armed ASTOR torpedoes were on board when the submarine sank. 27 Maggio 1968 – Oceano Atlantico. Un sottomarino statunitense Scorpion con a bordo due siluri a testata nucleare affonda nell'Atlantico, fra i 6 e gli 8 km. a sud ovest delle Azzorre ad una profondità di 3.450 m. Periscono 99 persone.

3 Giugno 1968 - (incidente unità navale nucleare) Atlantic: Shells from the Royal Navy frigate HMS Arethusa fall into farmland.

12 Giugno 1968 - (incidente unità navale nucleare) Atlantic: The USS Wasp (CVS-18) and the USS Truckee (AO-147) are badly damaged in a collision during underway replenishment off the U.S. east coast.

13 Giugno 1968 - (incidente unità navale nucleare) Atlantic: The USS Waldron (DD-699) and the USS Kiowa (ATF-72) collide during operations off the U.S. east coast.

15 Giugno 1968 - (incidente unità navale nucleare) Pacific: The USS Cossatot (AO-77), carrying 130,000 barrels of jet fuel, is badly damaged in a collision with the merchant ship Copper State in fog off Santa Cruz, California. The tanker loses 20 feet of its bow.

16 Giugno 1968 - (incidente unità navale nucleare) Pacific: U.S. Air Force F-4 jets sink a U.S. patrol boat and attack the USS Boston (CAG-1) and the Australian destroyer Hobart near the demilitarized zone off Vietnam, mistaking the ships for low-flying enemy helicopters.

Luglio 1968 - Mediterraneo. La nave cabotiera Scheersberg-A lascia il porto di Anversa per Genova con due tonnellate di uranio a bordo. La nave non arriverà mai in Italia come previsto, ma a Iskenderun, in Turchia, senza il suo carico. Anni più tardi, il proprietario della nave è ritrovato in una prigione norvegese, dove è stato identificato essere un agente segreto israeliano.

2 Luglio 1968 - (incidente unità navale nucleare) Atlantic: The Norfolk Ledger-Star reports that several months ago a U.S. nuclear-powered attack submarine collided with a Soviet submarine, causing severe damage to the U.S. vessel which spent two months in Rota, Spain, for repair. The Navy declined to comment on the story by the paper's military correspondent who quoted a usually reliable source. The reporter noted that it is known that during recent months Soviet attack submarines have lain off overseas U.S. Polaris submarine ports, and that U.S. submarines have been given "wiping off" missions to prevent the Soviet submarines from following the Polaris boats. These missions apparently can get quite rough, amounting to what one officer says is "underwater chicken," with U.S. and Soviet submarines set on collision courses until the "chicken" turns away. "Presumably this is what happened" to the U.S. and Soviet submarines.

3 Luglio 1968 - (incidente unità navale nucleare) : The Royal Navy survey vessel HMS Fox suffers a gas accident, killing one

Agosto 1968 - Brenillis (Spagna). La centrale si blocca completamente. La riparazione è durata 3 anni.

1 Agosto 1968 - Wisconsin, USA. Incidente radioterapico. A patient was killed by a dose of 400-500 rads to the bone marrow from gold-198 during a liver scan. (Two sources give the location as Wisconsin; one gives Argonne Cancer Hospital near Chicago, Illinois.)

1 Agosto 1968 - (incidente unità navale nucleare) Pacific: The USS Caliente (AO-53) runs aground on a mud bank while entering Auckland Harbor, New Zealand. The oiler is pulled clear with no hull damage.

9 Agosto 1968 - (incidente unità navale nucleare) Atlantic: The USS Von Steuben (SSBN-632) collides with the towed commercial tanker Sealady about 40 miles off the southern Spanish coast. The Von Steuben was submerged when struck or was struck by a submerged tow cable connecting a tug and the Sealady. The submarine surfaces immediately and then collides with the towed ship. The submarine sustains minor external damage to the super structure and main deck.

15 Agosto 1968 - (incidente unità navale nucleare) Atlantic: Two small fires occur aboard the Royal Navy nuclear-powered attack submarine HMS Valiant while it is in dock at Chatham, U.K. Damage to the ship is slight and there are no casualties.

27 Agosto 1968 - Severodvinsk, Russia (then USSR) – Reactor power excursion, contamination
While in the naval yards at Severodvinsk for repairs Soviet Yankee-class nuclear submarine K-140 suffered an uncontrolled increase of the reactor's power output. One of the reactors activated automatically when workers raised control rods to a higher position and power increased to 18 times normal, while pressure and temperature levels in the reactor increased to four times normal. The accident also increased radiation levels aboard the vessel. The problem was traced to the incorrect installation of control rod electrical cables.

31 Agosto 1968 - (incidente unità navale nucleare) Atlantic: An East German naval vessel collides with a Swedish ferry and sinks off Denmark. Six East German sailors are reported missing.

8 Settembre 1968 - (incidente unità navale nucleare) Atlantic: The USS Douglas H. Fox (DD-779) suffers a fire en route to Charleston, South Carolina, killing two and injuring six.

13 Settembre 1968 - (incidente unità navale nucleare) Atlantic: A shell goes through the rigging of a trawler in Lyme Bay off Dorset, U.K., during Royal Navy gunnery practice.

6 Ottobre 1968 - Un sottomarino sovietico fa naufragio nelle acque dell'Artico al largo della Penisola di Cola. Pochi mesi prima, un altro era affondato nel Pacifico

19 Ottobre 1968 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Warspite is damaged by ice during exercises in the North Atlantic, suffering slight damage to its conning tower and superstructure. The Royal Navy says there was not risk of "radioactive leakage." The submarine returns to Faslane, Scotland, for repairs.

12 Novembre 1968 - (incidente unità navale nucleare) : The Royal Navy diesel submarine HMS Alliance suffers a fire.

26 Novembre 1968 - (incidente unità navale nucleare) Pacific: The USS Hancock (CVA-19) and the USS Camden (AOE-2) collide during underway replenishment off South Vietnam. There are no injuries but the Camden is slightly damaged

10 Dicembre 1968 - Mayak Enterprise, Russia: criticità di incidente con soluzione di plutonio
Solutions of plutonium were being transferred from a large tank into a stainless steel vessel using a glass bottle. While a worker was pouring a second load from the glass bottle into the vessel, a criticality excursion occurred, producing a flash of light and a pulse of heat. The worker dropped the bottle, which shattered and spilled its remaining contents on the floor, and left the room. A smaller excursion occurred while the room was empty. Two supervisors approached the room, but were halted by high radiation readings; the radiation control supervisor prohibited further approach but was misled into leaving, after which the shift supervisor entered the room and attempted to move or drain the vessel. The largest criticality excursion occurred then, exposing the supervisor to 2,450 rem and covering him with plutonium solution. The supervisor died one month later. The worker received a dose of 700 rem, leading to acute radiation sickness and amputation of both legs and one hand; he was still alive in 1999.

30 Dicembre 1968 - (incidente unità navale nucleare) Atlantic: An inquiry into an explosion aboard the Royal Navy destroyer HMSA ntrim is held.

31 Dicembre 1968 - (incidente unità navale nucleare) Arctic: According to raw CIA intelligence reports, in 1968, a Soviet nuclear submarine sinks off Severomorsk on the Kola Peninsula, killing all 90 on board. The submarine was over due from patrol, and after waiting one or two days authorities initiated a search. Divers found the submarine on the bottom of the estuary to the Kolskiy Zaliv. When the submarine was recovered it was determined that all food had been consumed and it was estimated the submarine had been at the location for 30 days.

31 Dicembre 1968 - (incidente unità navale nucleare) Pacific: Late 1960s -- Reportedly a U.S. government official is briefed about a collision between a U.S. submarine engaged in a Holystone intelligence gathering mission and a North Vietnamese minesweeper in the Gulf of Tonkin. The minesweeper sinks within minutes (see 5/25/75 entry).

1969 - Garigliano (Italia). Sette arresti alla centrale per guasti.

1969 – Stati Uniti. Quattro chilogrammi di 235U (che avrebbero dovuto viaggiare in convogli blindatissimi) vengono abbandonati “per caso” all’aeroporto di Boston. Rintracciati, dopo 6 mesi di frenetiche indagini, sotto un carico di scarpe nel deposito oggetti non ritirati dell’aeroporto.

1969 - Germania. Per fessurazioni molteplici delle turbine il reattore Gundremmingen sul Danubio viene chiuso per 3 anni.

1969 - Usa. Incendio nel reattore di Rocky-Flats. Durante l'incendio si perde plutonio.

1 Gennaio 1969 - (incidente unità navale nucleare) Atlantic: During the winter -- the French trawler Belle Poule catches the Royal Navy diesel submarine HMS Porpoise in its nets off the U.K. or France.

14 Gennaio 1969 - (incidente unità navale nucleare) Pacific: The USS Enterprise (CVAN-65) suffers explosions and a fire during its two-and-a-half-day Operational Readiness Inspection 70 miles south west of Pearl Harbor, Hawaii, killing 28 and injuring 343. The fire starts when a tractor used to start aircrafts backed under the wing of a F-4 Phantom aircraft loaded with Zuni rockets. The tractor has a small jet engine mounted on its rear, the hot exhaust of which is put directly on to a Zuni rocket's warhead. In about a minute the warhead cooks off, spraying shrapnel over the flight deck, puncturing tanks and starting fires. The fires cause other Zuni rockets and 500-lb. bombs loaded on planes and piled on deck to cook off, exploding planes, blowing holes in the solid steel

deck, and spilling aviation fuel from punctured fuel storage tanks. The captain of the ship recalls his concern over containing the fire to the aft part of the flight deck, since so little fire fighting equipment was on the flight deck, commenting "If the fire had spread to the hangar deck, we could have very easily lost the ship." Despite the lack of equipment the fire is successfully contained and after three hours burns itself out, where upon the ship proceeds back to Pearl Harbor. Damage includes 15 aircraft destroyed and 17 damaged. 14 Gennaio 1969 - Una bomba cade accidentalmente sul ponte della porta-aerei nucleare USS Enterprise, alias "Big E2, uccidendo 25 marinai e ferendo 85 membri d'equipaggio.

21 Gennaio 1969 - Lucens (Vantone di Vaud, Svizzera). Dopo sole 7 ore di funzionamento si ha surriscaldamento con rottura di guaine ed infiltrazione di acqua contaminata nel sotterraneo. La grotta contenente la centrale viene, in seguito, definitivamente murata .

22 Gennaio 1969 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Blake suffers a fire.

Febbraio 1969 - Borgo Sabotino (Latina - Italia). Arresto della centrale di Borgo Sabotino per mancanza di alimentazione alla strumentazione

19 Febbraio 1969 - (incidente unità navale nucleare) Atlantic: The USS Chopper (SS-342) plunges to the sea bottom after suffering a control casualty off Cuba on a routine training mission, injuring two and causing minor damage to the submarine.

Marzo 1969 - Borgo Sabotino (Latina - Italia). Guasto alla centrale.

10 Maggio 1969 - (incidente unità navale nucleare) Atlantic: The Swedish diesel submarine Sjoebjoernen hits the bottom after diving too fast and suffers slight damage.

11 Maggio 1969 - Denver, Colorado, USA – Plutonium fire, contamination An accident in which 5 kilograms of plutonium burnt inside a glove box at Rocky Flats. Cleanup took two years and was the costliest industrial accident ever to occur in the United States at that time.

15 Maggio 1969 - (incidente unità navale nucleare) Pacific: The USS Guitarro (SSN-665) undergoing final fitting-out at the San Francisco Bay Naval Shipyard at Vallejo, California, sinks in 35 feet of water next to the pier. No fissionable materials on board. The report of the U.S. Congress House Armed Services Subcommittee convened to investigate the accident charges culpable negligence on the part of shipyard workers responsible for the submarine: two civilian work crews pumped water into fore and aft sections of the boat; neither crew knowing what the other was doing.

25 Maggio 1969 - (incidente unità navale nucleare) Pacific: The USS King (DLG-10) suffers a fire in the fire room while operating off North Vietnam, killing four. The ship proceeds to the Philippines for repairs.

26 Maggio 1969 - (incidente unità navale nucleare) Pacific: The Japanese fishing vessel Tayo Maru sinks after colliding with a Soviet patrol boat which was chasing it off the Kurile Islands, eight are rescued.

27 Maggio 1969 - (incidente unità navale nucleare) : The Royal Navy cruiser HMS Blake suffers another fire.

1 Giugno 1969 - (incidente unità navale nucleare) Atlantic: The USS Lowry (DD-770) suffers a gun explosion during a training mission off Puerto Rico, killing one and injuring eight.

1 Giugno 1969 - (incidente unità navale nucleare) Pacific: In June a Japanese freighter passing off De-Kastri in the Tartar Strait is severely hit and damaged by dozens of splinters from a Soviet missile, which the Japanese government later identifies as a Soviet SS-N-3 Shaddock cruise missile.

2 Giugno 1969 - (incidente unità navale nucleare) Pacific: The USS Frank E. Evans (DD-754) collides with the Australian aircraft carrier Melbourne in the South China Sea approximately 650 miles southwest of Manila, cutting the destroyer in two. The bow section of the Evans sinks in about two minutes, killing 74, while the aft section of the Evans is quickly secured alongside the Melbourne. The collision occurred during the SEATO exercise "Sea Spirit."

12 Giugno 1969 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Ark Royal suffers a fire in a Devonport dockyard, U.K., while undergoing an extensive overhaul.

13 Giugno 1969 - (incidente unità navale nucleare) Pacific: The Royal Navy diesel submarine HMS Rorqual bumps into the USS Endurance (MSO-435) while docking at River Point pier in Subic Bay, Philippines.

8 Luglio 1969 - (incidente unità navale nucleare) Atlantic: The USS Cambria (APA-36) and USS Shadwell (LSD-15) collide off Malta during a night exercise.

15 Luglio 1969 - (incidente unità navale nucleare) Atlantic: The USS Forrestal (CVA-59) suffers a small, localized fire while the ship is in the Norfolk Naval Shipyard, Virginia.

9 Agosto 1969 - (incidente unità navale nucleare) Pacific: A Japanese fishing boat collides with a Soviet patrol boat off Hokkaido, killing 11. Japan rejects Soviet claims the fishing boat violated Soviet territorial waters.

22 Agosto 1969 - (incidente unità navale nucleare) Pacific: The USS Coral Sea (CVA-43) collides with a tug and Navy barge in San Francisco Bay, California, injuring one barge crewman.

4 Settembre 1969 - (incidente unità navale nucleare) Atlantic: The USS Dewey (DLG-14) suffers an explosion and fire in the boiler room while preparing to sail from Toulon, France; killing three.

5 Settembre 1969 - (incidente unità navale nucleare) Atlantic: The French trawler Pointe de Barfleur catches the Royal Navy diesel submarine HMS Onyx in its nets about 20 miles north-northeast of Cherbourg in the English Channel. The trawler faced some resistance when it hauled up its nets. A flare was seen shooting up and then the submarine broke the surface. After some explanation the two boats went their way.

8 Settembre 1969 - (incidente unità navale nucleare) Atlantic: The USS Lexington (CVS-16) suffers a fire in a boiler room as the ship is in drydock in Boston, Massachusetts, injuring two.

8 Settembre 1969 - (incidente unità navale nucleare) Atlantic: The USS Intrepid (CVS-11) runs aground off Jamestown, Rhode Island, but is freed after two hours.

23 Settembre 1969 - Cina. Esplosione di una bomba termonucleare sotterranea in un poligono nella parte occidentale del paese. Il 28 settembre, un terremoto colpì lo stato di Vittoria, nell'Australia sud-orientale.

2 Ottobre 1969 - Isola Amchitka, Nord Pacifico, Alaska (USA). Test nucleare ad una profondità di 1.220 metri allo scopo di calibrazione strumenti sismici militari

13 Ottobre 1969 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered ballistic missile submarine HMS Renown collides with the Irish motor vessel Moyle as it is surfacing during the night in the Mull of Kintyre off the westcoast of Scotland. The U.K. Navy Department says damage was slight and at no time was there a risk of a nuclear explosion. There are no casualties. Apparently the Renown was carrying out work-up trials preparatory to going on its first operational cruise in a few weeks, but was not carrying any missiles.

17 Ottobre 1969 – San Laurent des Eaux, Loir-et-Cher, Francia. Un errore nelle procedure adottate per la gestione del combustibile provoca una fusione parziale a un reattore nucleare raffreddato a gas. Parecchi chilogrammi di uranio vanno persi durante un incidente a Saint Laurent des Eaux. Le riparazioni durano quasi un anno per un costo equivalente a 3 milioni di euro.

30 Ottobre 1969 - (incidente unità navale nucleare) Atlantic: The Royal Navy destroyer HMS Glamorgan fires a missile which lands near a farm, causing damage.

31 Ottobre 1969 - (incidente unità navale nucleare) : Fall 1969 (reportedly 18 months prior to 31 March 1971) a U.S. submarine engaged in Holystone intelligence gathering operations is beached for about two hours off the Soviet Union's coast, creating concern in the U.S. National Security Council because of the possibility of an international incident if the submarine is discovered (see 3/31/71 and 5/25/75 entries).

10 Novembre 1969 - (incidente unità navale nucleare) : An unarmed torpedo fired from a Royal Navy submarine on exercise narrowly misses the Clyde ferry Countess of Breadalbane in the Loch Long, Scotland. The U.K. Ministry of Defense says the torpedo's mechanism went wrong after being fired correctly on course.

14 Novembre 1969 - (incidente unità navale nucleare) Arctic: The New York Times (7/6/75) reports the USS Gato (SSN-615) collides with a Soviet submarine the night of the 14 or 15 of November 15 to 25 miles from the entrance of the White Sea in the Barents Sea. A crewmember is quoted as saying the Gato was struck in the heavy plating that serves as a protective shield around the nuclear reactor, but the ship sustained no serious damage. However the ship's weapons officer immediately ran down two decks and prepared for orders to arm nuclear-armed SUBROC antisubmarine warfare missile and three nuclear-armed torpedoes. The accident reportedly occurred during a Holystone operation (see 5/25/75). According to former Gato crewmembers their commanding officer was ordered to prepare false reports showing the submarine had suffered a breakdown and halted its patrol two days prior to the collision. The Gato's commanding officer refused to comment when he was contacted due to security reasons.

14 Novembre 1969 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Otter strikes a 20-foot wooden ferry in the Manchester Ship Canal, U.K. The two passengers in the ferry jump into the water when they see the outline of the submarine bearing down on them. The submarine strikes the ferry a light blow, slightly damaging the ferry. The men swim safely to shore. The Otter was one of four submarines on a four-day goodwill visit to Manchester.

12 Dicembre 1969 - (incidente unità navale nucleare) Pacific: The USS Parsons (DD-949) collides with the Filipino fishingboat Orient off southern California. The Orient sinks but its crew is rescued.

27 Dicembre 1969 - (incidente unità navale nucleare) Pacific: The ammunition aboard the merchant ship Badger State comes loose and explodes when a big wave throws the ship on its side 1,500 miles north east of Hawaii as it is en route to Vietnam with a cargo of ordinance; 26 are dead or missing. The ship is rocked by explosions and fire for a week, leading the Navy to abandon salvage plans. The ship subsequently is sunk with gun fire.

1970 - Belgio. Altro incidente nel cuore del reattore di Chooz.

1970 - Chicago (Usa). L'impianto Edison perde 200.000 litri di acqua contaminata.

1970 - Usa. Il reattore Dresden 2, da 600 Mw, sfugge completamente al controllo per 2 ore per un guasto ad una apparecchiatura di controllo.

10 Gennaio 1970 - (incidente unità navale nucleare) Atlantic: A Soviet Foxtrot class diesel-powered submarine loses 20 feet of its bow section in a collision somewhere in the Mediterranean in January. Reports variously attribute the accident to a collision with another Soviet naval vessel or with the Italian liner Angelina Laura near the Bay of Naples. The damaged submarine was anchored off Morocco in early February and departed into the Atlantic with an escort on 7 February.

10 Gennaio 1970 - (incidente unità navale nucleare) Atlantic: The USS Shangri-La (CVA-38) suffers a fire during training off Jacksonville, Florida, when an A-4 Skyhawk aircraft parked on the flight deck ignites, killing one.

10 Gennaio 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Dreadnought encounters serious problems at the Rosyth, Scotland, dockyard during the first nuclear reactor refueling at a British yard, delaying the completion of the refit for at least ten months.

17 Gennaio 1970 - (incidente unità navale nucleare) Pacific: The USS Volador (SS-490) and the Japanese freighter Miyahime Maru are lightly damaged in a collision at the mouth of Tokyo Bay, Japan.

21 Gennaio 1970 - (incidente unità navale nucleare) Atlantic: The USS Yancey (AKA-93) is driven through a section of the Chesapeake Bay Bridge-Tunnel by strong winds, which tore it from its anchorage near Hampton Roads, Virginia. No injuries are reported on the ship or on the roadway, but the roadway is closed to traffic.

29 Gennaio 1970 - (incidente unità navale nucleare) Atlantic: The USS Nathanael Greene (SSBN-636) is grounded for seven hours in thick fog in Charleston harbor, South Carolina. The Navy closes the harbor while the submarine is refloated. Officials will not say whether any Polaris missiles are on board, but a Navy spokesman says there appears to be no danger of nuclear leakage or reactor damage. The next day the Navy says the ship suffered no damage.

10 Febbraio 1970 - (incidente unità navale nucleare) Atlantic: The USS Semmes (DDG-18) is heavily damaged and the USS Samuel B. Roberts (DD-823), USS Charles F. Adams (DDG-2),

and USS Yellowstone (AD-27) are slightly damaged when a Greek freighter sideswipes the four ships in Naples harbor, Italy.

10 Febbraio 1970 - (incidente unità navale nucleare) Pacific: A Bullpup missile aboard the USS Bon Homme Richard (CVA-31) cracks and leaks toxic gases and liquids when its pneumatic hoist fails and drops it on the deck of the weapons magazine while the ship is berthed at Naval Station North Island in San Diego, California. A Navy spokesman says the missile is capable of carrying a nuclear warhead but was not believed to be armed at the time. Two hundred crewmembers are evacuated from the surrounding areas and the rest of the 3500-person crew stands by to take the ship to sea if necessary as a precaution. The broken rocket motor is safely lifted out of the ship and transferred to the dock.

10 Febbraio 1970 - (incidente unità navale nucleare) Pacific: Coincidentally, minutes before the Bullpup missile drops in a starboard magazine, an electrical fire breaks out in a port side magazine aboard the USS Bon Homme Richard (CVA-31) while the ship is docked at Naval Air Station North Island, San Diego, California.

11 Febbraio 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy diesel submarine HMS Auriga suffers a battery explosion while submerged in the Gibraltar area during NATO exercises. Ten people are injured, but the vessel surfaces safely and returns to port.

13 Febbraio 1970 - (incidente unità navale nucleare) Pacific: The USS Point Defiance (LSD-31) and USS Ponchatoula (AO-148) are slightly damaged in a collision during refueling operations north of Hawaii, injuring three.

22 Febbraio 1970 - Boetingen, West Germany. A nuclear warhead from a Pershing ballistic missile fell to the pavement during maintenance procedures. The launch pad was evacuated and the area sealed off. The warhead, however, did not detonate. The incident occurred when a crewman, working alone in violation of regulations that require at least two persons to be present around nuclear weapons, accidentally removed an explosive bolt and its detonating cable, causing the warhead to fall. The fall broke off approximately a one-half inch piece of the missile's nosecone and also put a two inch gouge in the nosecone and badly scratched the warhead's ablative material. The incident was originally reported as a "Broken Arrow," but was later downgraded to a "Bent Spear" incident.

4 Marzo 1970 - (incidente unità navale nucleare) Atlantic: The French diesel submarine Eurydice explodes and sinks during dive 35 miles east of Toulon, killing all 57 crewmen on board.

19 Marzo 1970 - (incidente unità navale nucleare) Pacific: The USS Orleck (DD-886) collides with the USS Neches (AO-47) during underway replenishment off the coast of Vietnam. The Neches loses its starboard side replenishment capability.

20 Marzo 1970 - (incidente unità navale nucleare) Pacific: The USS McKean (DD-784) and the USS Cacapon (AO-52) sustain minor damage in a collision during underway replenishment off Okinawa.

12 Aprile 1970 - (incidente unità navale nucleare) Golfo di Biscaglia, Atlantic: A Soviet November class nuclear-powered submarine sinks in the Atlantic Ocean approximately 300 miles north west of Spain. On 11 April the submarine is sighted dead in the water with personnel on deck trying to rig a tow line to two accompanying Soviet ships. By the morning of 12 April U.S. Navy P-3 patrol planes find only two oil slicks on the surface where the submarine had been, and the submarine is

considered lost at sea. The accident is believed to be related to a problem in the nuclear propulsion system. After the sinking Soviet survey vessels reportedly guard the area almost continuously for six months. Thereafter routine patrols are conducted until 1979, after which only occasional visits are made. 12 Aprile 1970 – Oceano Atlantico. Il sottomarino sovietico K-8, classe Novembre, affonda nell'Atlantico con a bordo due reattori e due siluri a testata nucleare. Muoiono 52 persone.

20 Aprile 1970 - (incidente unità navale nucleare) : The Royal Navy frigate HMS Plymouth collides with the French frigate Enseigne de Vaiseau Henry.

19 Maggio 1970 - (incidente unità navale nucleare) : An inquiry is held into a fire aboard the Royal Navy minelayer HMS Manxman.

28 Maggio 1970 - (incidente unità navale nucleare) Atlantic: The USS Daniel Boone (SSBN-629) proceeding on its initial sea trials collides with the Philippine merchant ship President Quezon off Cape Henry, Virginia. The submarine incurs minor damage, but the President Quezon receives extensive damage to her bow.

28-30 Maggio 1970 - USA. Esecuzione di test nucleari. Il 31 maggio la città di Chimbote, in Perù, viene devastata da un terremoto che uccide 60.000 persone

31 Maggio 1970 - (incidente unità navale nucleare) Atlantic: The West German destroyer Bayern suffers a gas explosion in an empty munitions store room, ripping a hole in the side of the ship, killing one and injuring two.

1 Giugno 1970 - (incidente unità navale nucleare) Indian: The Royal Navy oiler HMS Ennerdale sinks after running aground in the Seychelles.

13 Giugno 1970 - (incidente unità navale nucleare) Atlantic: The USS Little Rock (CLG-4) is in a minor collision with the Greek destroyer Lonchi in the Gulf of Laconia off Greece during the NATO exercise "Dawn Patrol 70."

18 Giugno 1970 - (incidente unità navale nucleare) Atlantic: The USS Eugene A. Greene (DD-711) and the USS Waccamaw (AO-109) are in a minor collision in the eastern Mediterranean during refueling operations.

23 Giugno 1970 Australia. Incidente da irradiazione Faulty assembly of an x-ray analysis unit resulted in localized overexposures to two individuals. The unit in question modified around early 1969 to use different diffraction cameras. When reassembled, one shutter mechanism was reassembled incorrectly such that the shutter did not engage to cover the x-ray port as required. On 23 and 24 June 1970 a research worker and an instrument maker were both exposed to the beam several times during efforts to adjust a camera. On the evening of 24 June the instrument maker noticed skin erythema on his abdomen. The two individuals were again exposed during work on the unit on 25 June, when they identified the malfunctioning shutter and realized they had been exposed. Dose to the instrument maker was estimated at 1500-2000 rem to the skin of the abdomen and 2000 rem to the hands, with a cumulative 90 min. exposure to the beam. Dose to the research worker from a cumulative 30 min. exposure was 1500 rem to the hands, producing skin injury, plus possible injury to the face as well. A third individual was briefly exposed but not injured.

8 Luglio 1970 - (incidente unità navale nucleare) : An inquiry is held into the fire aboard the Royal Navy aircraft carrier HMS Eagle.

17 Luglio 1970 - (incidente unità navale nucleare) : A sailor is found guilty of causing a power failure aboard the Royal Navy frigate HMS Ajax .

25 Luglio 1970 - (incidente unità navale nucleare) Atlantic: A fitter at the Chatham Naval Dockyard, U.K., working on the Royal Navy nuclear-powered attack submarine HMS Valiant receives a radiation dosage when he accidentally inhales radioactive material. According to the Ministry of Defense, the fitter "feels no ill effects and seems to be well," but is banned for a year from further work involving radioactivity.

30 Luglio 1970 - (incidente unità navale nucleare) Atlantic: Suspected sabotage to the main gearbox of the Royal Navy nuclear-powered attack submarine HMS Conqueror in the final stages of completion at the Cammel Laird shipyard Birkenhead, U.K., is under investigation. The shipyard says the damaged gearbox does not affect nuclear safety as it is separated from the reactor compartment.

4 Agosto 1970 - (incidente unità navale nucleare) Pacific: The USS Rogers (DD-876) collides with a Singapore-bound commercial tug in the South China Sea. There are no injuries.

19 Agosto 1970 - (incidente unità navale nucleare) Atlantic: A Soviet vessel reportedly equipped with electronic surveillance gear capsizes in the North Sea, near where NATO ships are maneuvering as part of exercise "Minflotex 70." Before the NATO ships could come to its aid, a Soviet tug took in her in tow. The ship sinks in heavy seas on 25 August.

20 Agosto 1970 - (incidente unità navale nucleare) Atlantic: The French diesel submarine Galatee and the South African diesel submarine Maria von Riebeeck collide on the surface off Toulon, France, killing four.

11 Settembre 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy nuclear-powered attack submarine HMS Dreadnought suffers an air pipe fault, delaying its sea trials.

18 Settembre 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy coastal minesweeper HMS Wolverton collides with a yacht on which a family was spending its holiday, sinking the yacht at its moorings in Great Yarmouth harbor, U.K. The family leaves the yacht safely.

1 Ottobre 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy aircraft carrier HMS Ark Royal suffers faults to its flight-deck machinery and has to return to Devonport, U.K., for unscheduled repairs.

14 Ottobre 1970 - (incidente unità navale nucleare) : The Royal Navy aircraft carrier HMS Eagle is sent into drydock after a collision.

4 Novembre 1970 - (incidente unità navale nucleare) Pacific: A boiler room explosion occurs aboard the USS Goldsborough (DDG-20) six hours out of Taiwan, killing two and injuring four.

9 Novembre 1970 - (incidente unità navale nucleare) Atlantic: A Soviet Kotlin class destroyer and the Royal Navy aircraft carrier HMS Ark Royal collide in the eastern Mediterranean. The Ark Royal is only slightly damaged, while the Soviet ship is badly scraped along her port side.

10 Novembre 1970 - (incidente unità navale nucleare) A fire broke out in the stern of the U.S. Navy submarine tender USS Canopus which was carrying several nuclear-armed missiles. The tender was

at the Holy Loch submarine base in Scotland moored alongside two American nuclear-powered ballistic missile submarines. It took four hours to bring the fire under control.

14 Novembre 1970 - (incidente unità navale nucleare) Atlantic: The USS Seawolf (SSN-575) suffers a breakdown in the engine room main drain south of Guantanamo Bay, Cuba, en route to the Pacific. It surfaces dead in the water and asks for assistance. The USS Blandy (DD-943) gets underway to rendezvous and escort or tow the submarine. The next day the submarine is able to correct the problem itself and gets underway on its own power for Guantanamo.

16 Novembre 1970 - (incidente unità navale nucleare) : The Royal Navy destroyer HMS Fife catches fire during "LimeJug 70" exercises.

21 Novembre 1970 - (incidente unità navale nucleare) Atlantic: The Royal Navy frigate HMS Ulster is damaged by hitting a Swansea, U.K., quay.

28 Novembre 1970 - (incidente unità navale nucleare) Atlantic: The USS Sylvania (AFS-2) and the USS Concord (AFS-5) are slightly damaged in a collision in Rota, Spain, when the Sylvania attempts under pilot to moor alongside the Concord.

29 Novembre 1970 - (incidente unità navale nucleare) Atlantic: Fire breaks out in a baggage storeroom in the stern of the submarine tender USS Canopus (AS-34) while it is in the Holy Loch submarine base, Scotland. The Daily Telegraph reports that it was carrying nuclear-armed missiles and that two U.S. nuclear-powered ballistic missile submarines, the Francis Scott Key (SSBN-657) and James K. Polk (SSBN-645), were moored alongside. The Francis Scott Key cast off, but the Polk remained alongside. U.S. naval authorities in Holy Loch and London dismiss any suggestion that a nuclear explosion aboard the Canopus could have occurred or that "even a remote danger" from missiles or other materials existed. "We have drills and precautions which rule out any danger whatsoever," the London spokesman says. There are precautions against every eventuality in Holy Loch." The fire was brought under control after four hours. Three men were killed and the cause of the fire was unknown. U.S. Navy documents record that "damage was extensive in the small area in which the fire was contained," but "repairs were effected on site and Canopus was never 'off the line'".

18 Dicembre 1970 - Nevada Test Site, Area 8 (USA): test nucleare. Profondità: -273 m. Il test, denominato Baneberry, libera 250 PBq di radioattività attraverso una fessura nelle rocce. In Area 8 on Yucca Flat, the 10 kiloton "Baneberry" weapons test of Operation Emery detonated as planned at the bottom of a sealed vertical shaft 900 feet below the earth's surface but the device's energy cracked the soil in unexpected ways, causing a fissure near ground zero and the failure of the shaft stemming and cap.[29] A plume of hot gases and radioactive dust was released three and a half minutes after ignition,[30] and continuing for many hours, raining fallout on workers within NTS. Six percent of the explosion's radioactive products were vented. The plume released 6.7 MCi of radioactive material, including 80 kCi of Iodine-131 and a high ratio of noble gases.[31] After dropping a portion of its load in the area, the hot cloud's lighter particles were carried to three altitudes and conveyed by winter storms and the jet stream to be deposited heavily as radionuclide-laden snow in Lassen and Sierra counties in northeast California, and to lesser degrees in northern Nevada, southern Idaho and some eastern sections of Oregon and Washington states.[32] The three diverging jet stream layers conducted radionuclides across the US to Canada, the Gulf of Mexico and the Atlantic Ocean.

>>>>GUARDA LO SPECIAL: ESPLOSIONI E TEST NUCLEARI NEL MONDO da
ProgettoHumus

>>> INCIDENTI NUCLEARI DAL 1991 AD OGGI
>>> INCIDENTI NUCLEARI DAL 1971 AL 1990

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