

If fire service personnel are dead due to their duty, such as fire suppression, rescue or first-aid activities, they will be buried in the National Cemetery, based on the provisions of Article 14-2 of the Fire Service Act that those who are dead or injured on their duty, such as fire suppression, rescue or first-aid activities, the bereaved family shall be cordially received under the Law for Honorable Treatment & Support of Patriot. Only soldier, policeman, or fireman can be buried in the National Cemetery.

#### References

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  - e. The Regulations Affecting Fire Service Personnel's Service
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  - g. The National Public Service Law and Local Public Service Law
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## Changes of the Industry and the Disaster in Postwar Japan

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#### ABSTRACT

After the World War II, Japan was racked by hunger, illness, and cold. However, by using the knowledge and technology introduced from the developed countries before the war, the industry was revived, and even new industries were established. In the meantime, a large number of labors were injured and killed in the dangerous work site. It was fortunate that the safety experts were sent from the United States by the U.S. Forces' requisition. Then, along with the technological innovation in the dangerous industries such as steel and shipbuilding, the new industries such as car, television, and information changed the production center into a clean and safe place. However, since Japan is full of mountains and surrounded by the sea, most of its land is humid and rainy. Compared with the less humid country, corrosions occur quickly, and it can lead to the excessive cost for preservation. Moreover, although earthquake is not the major issue here, the demand for strong artifacts are very high, compared with the country with no earthquake. Here, we would like to introduce the failure rather than success and receive criticism.

**KEYWORDS:** Japan, Industrial Safety, Natural Environment

#### 1 DISASTERS OF THE WORLD

As the coal was began to be used in the 18th century Britain, industrial accidents started to take place in the dark and narrow coal mine where the methane often generates. Since the risk of the explosion of the methane and the coal dust was not clear, explosive accidents often took place.

The boiler, once triggering the Industrial Revolution, had low hyperbaric-pressure at the

**beginning.** However, as the hyperbaric pressure rises, it was often placed in the separate building to minimize the damage from the explosion. Similarly in Japan, to alleviate the damage from the explosion, the shipping agent towed the passenger boat with the steamboat.

The growth of the steam locomotive created the railroad service that requires civil engineering technologies such as tunneling and bridge construction. Both of them were accompanied by industrial accidents like crashing, flooding, and bridge destruction.

Also, though electricity was gradually developing as energy, the compressed air was temporarily attracting the people's expectation as major energy. In Paris, the 400km pneumatic piping was laid and used as the power for such things as clock and private-power-generation machine. Undoubtedly, the air-engine vehicle had also been introduced instead of the steam locomotive and used in the methane- generating coal mine. Even in today, the compressed air is still used in the power of the door and the brake of the train, and compressed air is stored and then used for power generation.

This compressed air also caused intense explosions in the compressor line that uses inflammable lube. The accident happened in the French coal mine, and it took the investigation to find out for the first time that the oil-film detonation can cause such accident. Similar accidents took place in Britain and Germany, but in Japan, it only came to notice after the World War II.

Although the dam had been constructed from ancient times for irrigation and potable water, it was the rise of electricity as the major energy that started the construction of large-scale dam. In the 20th century, about 200 internationally prominent dams collapsed, and about 10,000 people were killed. The Japanese dams were constructed with the technology gained from such shortcomings in the West. For this reason, Japan had almost no dam accident except for the slag dam.

The chemical industry also progressed in Britain, France, Germany, etc. Here, we will mention celluloid as an example. It is a thermoplastics made by adding the camphor of the plasticizer to the nitrocellulose (also called the guncotton). It was a very dangerous material, igniting below 200 degrees C, having quick flame transmission, and very hard to extinguish. However, for its easy elaboration, beautiful coloring, and cheapness, the celluloid is widely used for films (for movies and photograph, including the X-ray use), toys, and stationeries, even though its risk was known.

In 1936, 27,000t of celluloid were produced around the world, and Japan occupied 40% of the production. Naturally, fire and gassing accident happened frequently. For this reason, the Department of the Interior in Japan translated the celluloid-controlling methods in European countries for reference and announced the safety measure. The entrance door of the movie theaters became fireproof and out-swinging, the projection room was made fire-resistant, and the projection engineer's rating constitution was carried out, but the accident in the local

works and public halls continued even after 1945. However, the fire-resistant cellulose acetate began to be used from around 1955 and later succeeded by the polyester.

In addition, such accidents as following occurred. Factory lodging fire, dry-cleaning store fire (where gasoline is used), explosion of the illumination and the calcium carbide for welding (irrigation generates the acetylene), workers being caught in the revolution belt in the machine factory, toxinosi from the carbon bisulfide in factories, toxinosi by the carbon monoxide in the iron mill, etc.

## 2 INDUSTRIAL ACCIDENTS IN JAPAN AFTER 1945

First, the increased production of food, coal, and iron were planned, but explosions of the raw-material gas took place at the factories producing manure from ammonium sulfate. Explosions, oxygen deficiencies, cave-ins, and flooding frequently took place in the coal mine. At the iron mill, the measures were taken to prevent the blast-furnace-gas explosion and intoxication.

However, Japan had industrial accidents 10 times more than the United States at the time. The U.S. occupation army noticed this situation and called the experts from their country in October 1950 to give directions in the factories all over Japan.

From around 1950, people began to give efforts to the production of export materials to realize the better life. The shipbuilding engineers of the former Navy developed the block construction technique. The riveting was replaced by the electric welding, and various ships for domestics and overseas were launched one after another. However, industrial accidents such as electric shock in the electric welding, fire from the oxygen for cutting and leaked acetylene, explosion, and crash from footing occurred frequently. The "Shipbuilding Safety Council" was formed in 1947, and mutual safety check was carried out. Furthermore, the safety section was organized in the Shipbuilders' Association of Japan, and accidents began to decrease gradually.

Similar cases were also seen in such industries as the iron, automobile, cement, ammonium sulfate, soda extractive, etc. In the iron industry, the German documents and other materials were given out to companies to treat oxygen safely at the time the oxygen steel manufacturing was developed. Moreover, to prevent similar accidents or disasters from taking place again, the information magazines and the bulletins were published to introduce cases of accidents and foreign documents. They had effective results.

Due to these efforts, Japan's frequency rate, one of the parameter for the disaster incidence rate, stayed lower than the rate of the United States in 1971. Also, the quality of the various products improved. For example, with the steam iron, the announcement by the product-test magazine for consumers on the 2 performance and quality test before and after 1971 showed

the position of Japan and the United State reversed.

On the other hand, various kinds of industrial accidents frequently occurred in the construction of large-scale hydroelectricity dam, road, railroad, canalization, and building. When the construction was completed, the victim's memorial-service monuments were often built near the field.

Furthermore, congestion of the cities progressed, and railroad accidents, exhaust-gas from the automobile, waste problem in houses and factories came to attract the public attention.

### 3 CONCLUDING REMARKS

The industrial structure of Japan shifted from the heavy industries to the small and frivolous type of industries and later turned into today's information-technology type. In the meantime, the robotization of labor, automation, and depopulation progressed, and the industrial accident decreased sharply. On the other hand, the success of such safety measures paralyzed the people's sensitivity toward danger, and human error came to attract the people's attention. The use of penicillin was once expected to sweep away the disease, but the disease germ changed itself to nullify the medicine. Just as new medicines are being developed one after another, we must continue to develop new measures for accidents and disasters, since they are in constant change.

### APPENDIX

#### History of Safety Technology in Postwar Period

Date	Place	outline	Dead/Injured
1945-08-22	Ebino, Miyazaki	Carbon monoxide poisoning occurred from steam-locomotive smoke in the Hisatsu Tunnel.	50/20
1945-08-24 7:40	Hachioji, Tokyo	Two trains collides head-on on the iron bridge of the Hachiko Line.	105/67
1945-11-12 17:20	Fukuoka	There was an explosion while the U.S. forces were incinerating the old military powder-magazine (uzing the Chikuzen Futamata railroad tunnel).	145/151
1947-02-25 7:50	Hidaka, Saitama	The brake of the Hachiko Line train packed with full passengers had failure in its brake and overturned after it derailed.	184/497
1947-07-24	Osaka	A phosphene powder (magnesium being the main material) works exploded.	5/-
1948-08-23	Niigata, Niigata	The railing of the Bandai Bridge broke and fell into the river because of the crowds which came to see the fireworks.	22/30
1948-12-03	Off Shanghai, China	A regulation on the strength of the railing was established. "Kianga"exploded and sank in the South China Sea.	3920/-

1948	Japan	The use of the coal mine pocket illumination was prohibited except for the safety electric light. Since the use of safety hand lamp which burns petroleum etc. stopped, the number of oxygen deficiency accidents increased.	
1949-06-24	Kawasaki, Kanagawa	A hydrogen explosion occurred in a manure works.	19/80
		It became the motivation for the formation of outdoor chemical-plants.	
1949-07-24	Aichi	A fire caught on the gasoline which leaked from an edible-oil works and led to an explosion.	8/3
1950-06-09	Matsuida, Gunma	The mud and rocks recollapsed during the repairing of a mudslide at the Kumanodaira Station.	50/23
1950-07-30 16:43	Kashiwazaki, Niigata	A fire broke out during the fireworks manufacturing and led to an explosion of fireworks.	10/2
1950-09-03 16:00	Niigata	A cave-in occurred during the JNR Shinano River power-generation irrigation-canal tunnel's concrete construction.	44/-
1950-12-12	Kanayama, Fukushima	The wire rope was cut when a man was riding on the cableway for loads. The cage ran off.	15/5
1950	Japan	Explosives Control Law was made.	
1951-04-24 13:40	Yokohama, Kanagawa	type 63 commutation-train was destroyed by fire in Sakuragicho.	106/92
		Flameproofing and improvement of window and interconnecting catwalk were promoted.	
1951-07-11	Kameoka, Kyoto	The Heiwaike Earth Dam broke.	97/-
1952-09-24	Aogashima, Tokyo	The observatory ship investigating Myoujinshou was wrecked.	31/-
1952-12-22 13:38	Nagoya, Aichi	Ammonium nitrate exploded in a chemical plant.	22/363
1952	Japan	There were 70 cases of fire breaking out from movie films.	124/-
1953-02-14 10:40	Fuchu, Tokyo	Explosives exploded at an ordnance factory.	20/23
1953-03-19	Fukuoka	There was a cave-in during a railroad tunnel construction resumption afer 15 years of construction withdrawal.	21/4
1954-03-03	Tsurumi, Kawasaki, Kanagawa	An oxygen deficiency and air spout occurred during pneumatic-caisson construction.	5/3
1954-05	Japan	Toshiba resumed the production of poly chlorinated biphenyl.	
1954-09-06	Hokkaidou	In the construction of hydroelectric-power-station, blastings, cave-ins and other industrial accidents occurred frequently during the cave-in construction.	11/3
1954-09-26	Hakodate, Hokkaidou	The Toyamaru was capsized.	1172/-
		Construction of the undersea tunnel progressed.	
1954	Japan	Parathion poisoning occurred one after another.	307/-
		Sumithion development was promoted.	
1955-02-04	Ryuuzan, Shizuoka	During the Akiba dam construction, there was an explosion of the remaining medicine caused by a large scale blasting.	19/21
1955-04-16	Kobe, Hyogo	A LOX jar exploded in a shipbuilding yard.	3/-
		The use of inflammables for jar thermal insulation became prohibited.	
1955-04-16	Sasebo, Nagasaki	The coal-mine Mt. Botha collapsed from the heavy rain.	73/-
1955-05-11 7:00	Off Takamatsu, Kagawa	The Setouchi Sea-Uko ferry-boat "Shiunmaru" made a collision. One-way-traffic route was prepared.	168/57

1955-07-12	Korea	An accident occurred at the Hyokiri Dam	114
1955-11-01	Akabira, Hokkaido	Gas explosion and fire occurred at the Mojiri Coal Mine.	60/17
1955	Japan	Arsenic was mixed in the Morinaga milk and caused poisoning.	130/12001
1956-05-15	Japan	Fire-resistant photo films occupied 80% of all films.	
1956-05-15	Bunkyo, Tokyo	A professor at Tokyo University died from penicillin shock. This have made known the fact that dozens of people had died in the past.	1/0
1957-04-12	Hiroshima	An overloaded boat, the Kitagawamaru No. 5 sank in the Setouchi Sea.	113/49
1957-04-24	Hyogo	Ammonia jet for refrigeration spouted and and poisoned people inside the ship under repair.	12/2
1957	Japan	Electrocution during electric welding occurred frequently at shipbuilding yards.	18/-
		Electric shock prevention device was promoted.	
1958-01	Japan	Pure oxygen converter technologically introduced from Austria, in Osaka was installed in Kawasaki.	
1958-03	Yamaguchi, Fukuoka	The Kanmon Road Tunnel opened.	55/-
1958-07-15 16:10	Yukiya, Ota, Tokyo	Nitroglycerine-mannitol exploded at a medicine-manufacture works.	13/23
1958-07-30	Fuchu, Tokyo	A fireworks factory exploded.	13/1
1958-07~08	Yokohama, Kanagawa	An operator was tetraethyl-lead-poisoned while cleaning the fuel tank of the U.S. Forces.	8/21
1958	Japan	The number of people who died from electrocution during electric welding in the shipbuilding yard decreased sharply to three owing to the spread of the electric shock arrester.	
	Japan	Nitroglycerine glycol used to prevent freeze explosion caused nitroglycerine glycol poisoning at a powder factory.	2/-
1959-07-11 09:43	Ube, Yamaguchi	An oil-gas hydrogen low-temperature-separation purification facility (NOx+ accumulation organic) exploded and cold-service thermal-insulation material caught fire.	11/73
1959-11-20 10:25	Yokohama, Kanagawa	Fire broke out from the apparatus, and the TNT and the activated charcoal hexogen nearby exploded during an experiment using activated charcoal to purificate the filtration of melted TNT.	3/560
1959-12-11 04:52	Yokohama, Kanagawa	A TNT motor lorry collided with a dump truck loaded with gravel on the Keihin National Highway No. 2.	4/109
1959	Japan	The manufacturing of rubber cement with benzene became prohibited because of the frequent occurrence of poisoning.	
1950's		A destruction occurred from material impairment of the turbine and the generator axis.	
		It became the motivations for non-destructive inspection method such as ultrasonic detection and research of the brittle fracture of material.	
1960-02-27	Kumanogawa, Wakayama	Dynamite exploded during the construction of a electric-power-plant channel.	23/9
1960-03	Japan	The inside-of-tank work criteria in the tetraethyl-lead harm inhibition code was set.	
1960-09-20	Fukuoka	Flood occurred in the Toyosu Coal Mine.	67/-
1960	Japan	98 people died from carbon-monoxide-poisoning caused by the town gas. The number decreased gradually afterwards.	

	Japan	Oxygen piping in the iron mill exploded occurred one after another.	3/3
1962-05-03 21:36	Arakawa, Tokyo	A freight train which ignored a signal collided with a train, derailed, and collided again with an up-going train near the Joban Line Mikawashima Station.	160/383
1962-10-17	Japan	People were poisoned by the tetra-alkyl leads leaked out in a cargo boat.	8/20
1962-11-18 08:15	Kawasaki and Yokohama, Kanagawa	Two tankers collided in the Keihin canal. The gasoline spilled out and caught fire.	41/9
1963-04-01	Japan	Electric appliance experiment laboratory was founded.	
1963-06-05	Japan	Tetra-alkyl-lead poisoning prevention code was enforced.	
	Toyama	The Kurobe River electric-power-plant No. 4 was completed. The construction costed 171 deaths.	
1963-11-09 15:10	Oomuta, Fukuoka	A coal-dust explosion occurred at the Mitsui Miike Coal Mine. Large number of people were CO poisoned.	458/839
1963-11-09 21:51	Yokohama, Kanagawa	The Tokaido Line train had a double collision.	161/120
	Japan	Institution for Safety of High Pressure Gas Engineering was founded.	
1964-06-11 15:07	Kawasaki, Kanagawa	In Showa Denko, the steam generated from a crude material jar of a propylene-oxide manufacture facility and caused an explosion.	18/79
1964-06-16 13:02	Niigata	The Niigata earthquake occurred. The Showa petroleum KK crude-oil tank caught fire, and the city area went up on fire.	26/447
		It became the cause of earthquake insurance. Earthquake measures attracted attention.	
1964-07-14 21:55	Katsushima, Shinagawa, Tokyo	At the Takaragumi Warehouse, the nitrification cotton stored outdoor ignited spontaneously and paroxide exploded.	19/114
1964	Japan	Shinkansen opened between Tokyo and Shin Osaka. The construction costed 221 deaths.	
	Japan	Central Industrial Accident Prevention Association was founded.	
1965-05-23 07:10	Muroran harbor, Hokkaido	A tanker collided into a quaywall. Crude-oil leaked out, caught fire, exploded, and burned. 12 boats were either burned down or sank.	10/8
1965-06-01 12:36	Inatsuki, Fukuoka	The methane gas spouted out from the Yamano coal-mine. Sparks went up from the opening switch of the windlass and exploded.	237/29
1965-06-26 21:40	Takatsu, Kawasaki, Kanagawa	The cliff collapsed occurred in the new residential quarter. The accident is called "the Haizunami accident".	24/16
1965-12-01	Off Luzon Island, Philippines	The platform for petroleum mining of the Netherlands was overthrown.	13/-
1966-02-04 19:01	Ota, Tokyo	ALL NIPPON AIRWAYS B727 headed for Haneda from Chitose crashed into the Tokyo Bay just before the landing at Haneda Airport.	133/0
1966-02-16 11:30	Nagoya, Aichi	Polyurethane-foam for the insulation caught fire during the repairment of the LPG-carrier.	15/21
1966-03-04 20:15	Ohta, Tokyo	Canadian Pacific Airline's DC8 crashed into the tide embankment and burned just before landing at the Haneda Airport.	68/8

1966-03-05 14:15	Above Mt. Fuji, Shizuoka	The English Overseas Airline's B707 fell apart in midair and crashed near the second marking of the Mt Fuji.	124 / 0
1966-07-08	Kuroiso, Tochigi	People were poisoned by the exhaust gas from the gasoline generator during a mudslide repairment in a agricultural-water tunnel.	25 / 60
1966	Sweden	Biological fouling of the poly chlorinated biphenyl was discovered.	
	Japan	Osaka Gas constructed a non-toxicity fuel-gas plant. The automatic continuation roofing was introduced at the iron mill, and the accident rate reduced to 1/16.5, compared with the manual operating period (1951).	
1967-10-16	The Setouchi sea	Tetraethyl-lead liquid leaked during the cruise of the cargo boat Bostonmaru. People cleaning the interior of the ship were poisoned.	8 / 20
1967	Japan	The construction of the Shin Nippon Steel's Sakai iron mill completed. The construction took a toll of lives.	43 / -
	Japan	The department of safety engineering was newly established in the Yokohama National University.	
	Japan	Self control was exercised for the cadmium addition toxicity of the fluorescent light fluorescent substance.	
1968-04-01	Japan	Tetra-alkyl-lead poisoning prevention regulation was made.	
1968-05-16	Hokkaidou	There was an earthquake off Tokachi. Outbreak of fire occurred because oil heaters were turned over. The automatic switching off system of the oil heaters when vibration occurred was standardized in 1972.	52 / 330
1968-07-30	Yubari, Hokkaidou	Fire broke out from the overheating of the prime mover inside the mine of the Hokutan Heiwa Mine.	f
1968-08-09	Arabian-Sea	The tanker "Youhoumaru" was partially damaged during the cruise, and crude-oil spilled out.	0 / 0
1968-08-18 01:30頃	Shirakawa, Gifu	Two charter busses fell into the Hida River because of the mudslide occurred from the typhoon No. 7.	119 / 29
1969-01-05 11:30	Off Yajimazaki, Chiba	The hull of the ore transport-ship "Boribaamaru" broke and sank.	31 / 1
1969-04-01	Sumida, Tokyo	Steel-sheet-pillings of the Shin-Yotsuki Bridge collapsed during the ring beam method construction.	8 / -
1969-04-04 12:45	Bunkyo, Tokyo	Explosion occurred in the hyperbaric-oxygen medical-treatment room of the Tokyo University Infirmary.	4 / 0
1969-04-25 08:24	Kurum, Fukuoka	A rubber factory was burned.	11 / 7
1969-11-25	Osaka	A pneumatic-caisson-flood occurred from unusual depression during the sluice construction in the Shirinashi River.	11 / 5
1969	Japan	Pronatis-retinopathy frequently occurred when oxygen utilized upbrining box was used.	
1970-02-09	Off Yajimazaki, Chiba	The ore transport ship "California Maru" was flooded and sank.	5 / 0
1970-04-08 17:15	Osaka, Osaka	The town-gas spouted and exploded from the medium-pressure gas pipe at the construction site of the Tenroku Subway.	79 / 425
1970 - 10-24 13:43	Nagasaki, Nagasaki	The rotor bursted and dispersed during the turbine revolution test at a shipbuilding yard.	4 / 61
1970-12-09 11:00	Kumagaya, Saitama	The oxygen and acetylene containers under welding exploded at a factory.	8 / 8
around 1970		Normal slate -> Safety slate (prevent the treading-through fall on the slate roofing).	

## Uninhabited tunnel shield driving method.

1971-07-30 14:00	Shizukuishi, Iwate	The ALL NIPPON AIRWAYS B727 and the Self-Defense Forces F8 6F fighter under training collided in the air.	162 / 1
1971-11-11 15:30	Kawasaki, Kanagawa	People were crushed under of the great amount of mud and rocks which fell down during the cliff collapse experiment at the Ikeda Ryokuchi.	15 / 10
1971-12-04 21:50	Toyonaka, Osaka	The municipal purification plant had chlorine spouted during the interchange of the chlorine cylinder for disinfection. The nearby citizens took shelter.	0 / 375
1971-12-25	Soul, Korea	The Tainenkaku Hotel was burned.	163 / 63
	Japan	147 people (the largest number of people) became the victim of the labor disasters caused by oxygen deficit.	
1972-02-21 12:00	Kashima, Ibaragi	The accessory heavy-fuel oil boiler of a cargo boat exploded and the boat sank.	12 / 2
1972-05-13 around 22:27	Southern Osaka	Fire broke out from the electric construction site on the third floor of the seven-story Senjitsu department store. The smoke went up to the seventh floor and many people died.	118 / 81
1972-06-05 14:00	Kainan, Wakayama	At the electric power plant of the Kansai Electric Power Company, The shaft oscillated and bursted during the trial run of the generator. The fire caught on to the hydrogen for cooling.	0 / 0
1972-09-27	Fukushima	The indication of the computer hindered, and a train derailment accident occurred in the Kooriyama marshalling yard.	0 / 0
1972-11-06 01:13	Fukui	Fire broke out from the dining car of the express in the Hokuriku Line's Hokuriku tunnel. The power failed during the separation of the dining car and the passengers were poisoned by carbon monoxide.	30 / 714
1973-08-12 22:50	Oita	The chemical-plant's pesticide bailment was burned, and poisonous gas was generated.	0 / 202
1973-08-12 04:40	Korea	A petroleum-tanker overturned in the Kyongbu Line Yongdong station and burned.	46 / -
1973-11-29 around 13:15	Kumamoto, Kumamoto	The Daiyou Department Store burned.	104 / 124
1973	Japan	Apartment houses and mansions exploded from LP gas. Chemical plants in industrial-complex exploded frequently.	
1974-08-30 12:45	Chiyoda, Tokyo	The Mitsubishi Heavy Industry's building was blasted by terrorism. Many people got hurt from the pieces of glass.	8 / 385
1974-11-09 13:38	The Tokyo bay Nakase route	A LPG tanker and a cargo-boat collided. They sank on the 28th.	33 / 6
1974-12-11	Japan	The shinkansen was suspended for half a day and the railway was entirely inspected for safety.	
1974-12-18 20:40	Mizushima, Kurashiki, Okayama	At the Mitsubishi Oil Mizushima oil-refinery, the heavy-fuel-oil spouted by the destruction of the desulfurization heavy-fuel-oil tank's bottom edge.	0 / 0
1975-01-06	Malacca Fretum, Singapore	A large tanker "Shouwamaru" stranded and crude-oil flowed out.	0 / 0
1978-06-12 17:12		An earthquake occurred off Miyagi Prefecture. 400 sets of elevators were damaged.	28 / 11128
		It became the motivation for placing of earthquake sensor.	
1978-09-09	Akagi, Gunma	While placing of concrete from the concrete mixer truck at the nose of the Ayado Bridge over the Tone River, the concrete fell with an extraordinary noise and workers were killed.	4 / 5
1978-10-12	Singapore	The oil tanker of Greece staying at the dock for repairment exploded.	76 / 67

1979-03-20 21:40	Minakami, Gunma	There was a fire at the construction site of the Joetsu Shinkansen Ooshimizu tunnel.	16	1
1979-05-21 14:00	Osaka, Osaka	Sparks went up while welding the fourth floor lift at the Sumiyoshi Rubber's office which is also a workshop. Fire caught on to the urethane in the first floor bailment and exploded.	7	0
1979-07-11 18:25	Yaizu, Shizuoka	There were car crashes on the Toumei highway Nihon-zaka tunnel. There was an explosion and 189 cars were damaged by the fire.	7	2
1980-08-16 09:30	Shizuoka, Shizuoka	The underground "golden town" near the station had a town-gas explosion.	15	222
1980-11-25	China	A drilling ship sank in the Bo Hai Oil Field.	72	-
1980	Japan	The industrial-robot began to spread from this year.		
1981-10-16 12:40	Yubari, Hokkaidou	There was an outburst of gas and fire explosion at Hokutan Yubari New Mine.	93	39
1981-11-17	Manila, Philippines	The Film Palace, a six-story building being built for the International Festival of Film, had a cave-in during the construction and people were buried alive.	22	35
1982-02-08 03:24	Chiyoda, Tokyo	Hotel New Japan had a fire.	33	34
1982-03-18 15:15	Sasebo, Nagasaki	Fire broke out from the Indian tanker Barauni under repair in the Sasebo heavy industry's Sasebo shipbuilding yard.	10	2
1982-10-03 08:30	Kiyotake, Miyazaki	The exhaust-pipe of the VLSI manufacture pretreatment building's plasma-CVD facility had fire.	1	4
1983-04-13	Indonesia	A liquified gas factories exploded.	3	500
1983-10-25	Off Hainan Dao, Kuangtung, China	The petroleum excavating ship submerged from the typhoon in the Glomar Java Sea.	78	-
1983-11-19	Phatum Thani, Thailand	The first floor of the toy manufacturing factory had been flooded by the deluge damage in September, and the second and third floor suddenly collapsed.	80	45
1983-11-22 12:48	Kakegawa, Shizuoka	At the recreation facility, the underfloor terminal-cock-bundle of the gas pipe of a restaurant was left open. The LP gas exploded and fire went up.	14	27
1984-01-18 13:50	Takada, Fukuoka	Fire broke out from the band conveyor in the Mitsui Sanike Ariake Coal Mine.	83	16
1984-06-20 13:50	Taiwan, China	In the Kaizan coal mine, the connection pin of the coal car fell off and the car ran uncontrolled, raising coal-dust. The cable was cut and the coal dust exploded.	74	8
1984-07-10	Taiwan, China	The oil of the ground burned from the cable sparks of the air-compressor electric motor in the Duanfang Coal Mine, and fire broke out.	103	21
1984-11-16 11:46	Setagaya, Tokyo	The underground laying slot exclusive for telephone-exchange cable had fire. 90,000 circuits and the on-line service of the bank was stopped.	0	0
1984-12-05	Sanxia, Taiwan	A cave-in accident occurred in the Kaizan Ikkou. 95 people were shut in.	95	3
1985-04-24 08:40	Takashima, Nagasaki	The Mitsubishi Coal Mining's Takashima Mine had a coal-mine gas explosion.	11	6
1985-05-17 15:35	Yubari, Hokkaidou	Methane exploded in the Mitsubishi Nandai Yubari Mine.	62	24
1985-08-12 18:56	Ueno, Gunma	JAPAN AIR LINES jumbo jet crashed and burned.	520	4
1986-03-15	Singapore	A seven-story hotel collapsed.	33	17
1987-07-23	Tokyo	The intense heat caused rapid increase of electricity, and electric power failure took place in wide area.	0	0
1988-03-13	Japan	Seikan Submarine Railroad Tunnel was opened to traffic.	33	-

1988-04-10	Japan	The Setouchi Sea Communication Bridge (Kojima, Sakaide rout) was opened to traffic.		17/-
1989-02-16	Kanagawa	There was a fire during the repair of an Indian nationality cargo boat.		11/12
1989-03-14	Off Nojimizaki	Chemical tanker "Marsgsaru" loaded with methanol exploded and burned.		23/-
1989-11-03	Thailand	The methane excavation ship was overthrown in the gulf of Siam.		91/-
1990-03-18	Hyogo	The supermarket Nagasakiya was set fire and burned.		15/6
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1990-06-29	Aichi	Explosion occurred at a fireworks factory in Toyohashi. The workshop and the storage-shed was burned.		5/5
1990-09-24	Bangkok, Thailand	A LPG tanker plunged into a house near the highway outlet, exploded, and burned.		78/130
1991-03-14	Hiroshima	The girder of the elevated bridge fell down to the national highway during the construction of the new transportation system.		15/8
1991-04-21	Shanxi, China	A gas explosion occurred at the Sanjiaohe Coal Mine.		147/-
1991-05-14	Shiga	A interim train and a normal train had a head-on collision in the single rail track territory of the Shigaraki Kougen Railroad.		42/614
1991-10-02	Osaka	The gas pipe arrangement and etc. of the chemical vapor deposition system exploded went up on fire at the Osaka University basic faculty-of-technology laboratory.		2/3
1991-10-03	Miyazaki	The tire of the linear motor car had a puncture during the travel-motion test, and the car went up on fire and was destroyed.		0/0
1991-12-22	Osaka	The organic solvent exploded and burned during a repairment of the edible-oil plant's oil-and-fats successive-extraction equipment.		8/0
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1992-03-03~05	Turkey	Gas explosions occurred at two coal mines.		277/-
1992-04-22	Mexico	Hexane flowed out into a canal from a edible-oil factory. It exploded and went up on fire.		205/1440
1992-06-02	Ibaragi	A diesel train filled with passengers had a brake failure at Toride station and ran out of control.		1/256
1992-10-16	Chiba	The tower at an oil-manufacture place exploded as the sulfurizing-operation resumption.		10/7
1993-01-05	Off Scotland, UK	A tanker, the Blare, submerged and crude-oil flowed out.		0/0
1993-01-07	Chongju, Korea	The building fire caught on to the LP chemical cylinder and exploded.		29/50
1993-05-10 16:30	Thailand	A toy factory exploded and collapsed from gas leakage. The workers were buried underneath.		240/550
1993-08-27	Omi, China	A dam broke and washed away a village.		390/336
1993-10-05	Osaka	The unattended train of the new transportation system ran out of control and collided into the bumping post.		0/194
1993-11-19	Kuangtung, China	A plastic factory had a fire and many workers were suffocated.		84/36
1993-12-11	Malaysia	A 12-story apartment building collapsed. The ground may have gave in from the rain fall.		73/-
1994-03-10	Soul, Korea	The underground communication cable burned. Several 100,000 circuits were tied up.		0/0

1955-07-12	Korea	An accident occurred at the Hyokiri Dam	114
1955-11-01	Akabira, Hokkaido	Gas explosion and fire occurred at the Mojiri Coal Mine.	60/17
1955	Japan	Arsenic was mixed in the Morinaga milk and caused poisoning.	130/12001
1956-05-15	Japan	Fire-resistant photo films occupied 80% of all films.	
1956-05-15	Bunkyo, Tokyo	A professor at Tokyo University died from penicillin shock. This have made known the fact that dozens of people had died in the past.	1/0
1957-04-12	Hiroshima	An overloaded boat, the Kitagawamaru No. 5 sank in the Setouchi Sea.	113/49
1957-04-24	Hyogo	Ammonia jet for refrigeration spouted and and poisoned people inside the ship under repair.	12/2
1957	Japan	Electrocution during electric welding occurred frequently at shipbuilding yards.	18/-
		Electric shock prevention device was promoted.	
1958-01	Japan	Pure oxygen converter technologically introduced from Austria, in Osaka was installed in Kawasaki.	
1958-03	Yamaguchi, Fukuoka	The Kanmon Road Tunnel opened.	55/-
1958-07-15 16:10	Yukiya, Ota, Tokyo	Nitroglycerine-mannitol exploded at a medicine-manufacture works.	13/23
1958-07-30	Fuchu, Tokyo	A fireworks factory exploded.	13/1
1958-07~08	Yokohama, Kanagawa	An operator was tetraethyl-lead-poisoned while cleaning the fuel tank of the U.S. Forces.	8/21
1958	Japan	The number of people who died from electrocution during electric welding in the shipbuilding yard decreased sharply to three owing to the spread of the electric shock arrester.	
	Japan	Nitroglycerine glycol used to prevent freeze explosion caused nitroglycerine glycol poisoning at a powder factory.	2/-
1959-07-11 09:43	Ube, Yamaguchi	An oil-gas hydrogen low-temperature-separation purification facility (NOx+ accumulation organic) exploded and cold-service-thermal-insulation material caught fire.	11/73
1959-11-20 10:25	Yokohama, Kanagawa	Fire broke out from the apparatus, and the TNT and the activated charcoal hexogen nearby exploded during an experiment using activated charcoal to purificate the filtration of melted TNT.	3/560
1959-12-11 04:52	Yokohama, Kanagawa	A TNT motor lorry collided with a dump truck loaded with gravel on the Keihin National Highway No. 2.	4/109
1959	Japan	The manufacturing of rubber-cement with benzene became prohibited because of the frequent occurrence of poisoning.	
1950's		A destruction occurred from material impairment of the turbine and the generator axis.	
		It became the motivations for non-destructive inspection method such as ultrasonic detection and research of the brittle fracture of material.	
1960-02-27	Kumanogawa, Wakayama	Dynamite exploded during the construction of a electric-power-plant channel.	23/9
1960-03	Japan	The inside-of-tank work criteria in the tetraethyl-lead harm inhibition code was set.	
1960-09-20	Fukuoka	Flood occurred in the Toyosu Coal Mine.	67/-
1960	Japan	98 people died from carbon-monoxide-poisoning caused by the town gas. The number decreased gradually afterwards.	

	Japan	Oxygen piping in the iron mill exploded occurred one after another.	3/3
1962-05-03 21:36	Arakawa, Tokyo	A freight train which ignored a signal collided with a train, derailed, and collided again with an up-going train near the Joban Line Mikawashima Station.	160/383
1962-10-17	Japan	People were poisoned by the tetra-alkyl leads leaked out in a cargo boat.	8/20
1962-11-18 08:15	Kawasaki and Yokohama, Kanagawa	Two tankers collided in the Keihin canal. The gasoline spilled out and caught fire.	41/9
1963-04-01	Japan	Electric appliance experiment laboratory was founded.	
1963-06-05	Japan	Tetra-alkyl-lead poisoning prevention code was enforced.	
	Toyama	The Kurobe River electric-power-plant No. 4 was completed. The construction costed 171 deaths.	
1963-11-09 15:10	Oomuta, Fukuoka	A coal-dust explosion occurred at the Mitsui Miike Coal Mine. Large number of people were CO poisoned.	458/839
1963-11-09 21:51	Yokohama, Kanagawa	The Tokaido Line train had a double collision.	161/120
	Japan	Institution for Safety of High Pressure Gas Engineering was founded.	
1964-06-11 15:07	Kawasaki, Kanagawa	In Showa Denko, the steam generated from a crude material jar of a propylene-oxide manufacture facility and caused an explosion.	18/79
1964-06-16 13:02	Niigata	The Niigata earthquake occurred. The Showa petroleum KK crude-oil tank caught fire, and the city area went up on fire.	26/447
		It became the cause of earthquake insurance. Earthquake measures attracted attention.	
1964-07-14 21:55	Katsushima, Shinagawa, Tokyo	At the Takaragumi Warehouse, the nitrification cotton stored outdoor ignited spontaneously and paroxide exploded.	19/114
1964	Japan	Shinkansen opened between Tokyo and Shin Osaka. The construction costed 221 deaths.	
	Japan	Central Industrial Accident Prevention Association was founded.	
1965-05-23 07:10	Muroran harbor, Hokkaido	A tanker collided into a quaywall. Crude-oil leaked out, caught fire, exploded, and burned. 12 boats were either burned down or sank.	10/8
1965-06-01 12:36	Inatsuki, Fukuoka	The methane gas spouted out from the Yamano coal-mine. Sparks went up from the opening switch of the windlass and exploded.	237/29
1965-06-26 21:40	Takatsu, Kawasaki, Kanagawa	The cliff collapsed occurred in the new residential quarter. The accident is called "the Haizunami accident".	24/16
1965-12-01	Off Luzon Island, Philippines	The platform for petroleum mining of the Netherlands was overthrown.	13/-
1966-02-04 19:01	Ota, Tokyo	ALL NIPPON AIRWAYS B727 headed for Haneda from Chitose crashed into the Tokyo Bay just before the landing at Haneda Airport.	133/0
1966-02-16 11:30	Nagoya, Aichi	Polyurethane-foam for the insulation caught fire during the repairment of the LPG-carrier.	15/21
1966-03-04 20:15	Ohta, Tokyo	Canadian Pacific Airline's DC8 crashed into the tide embankment and burned just before landing at the Haneda Airport.	68/8

1966-03-05 14:15	Above Mt. Fuji, Shizuoka	The English Overseas Airline's B707 fell apart in midair and crashed near the second marking of the Mt Fuji.	124 / 0
1966-07-08	Kuroiso, Tochigi	People were poisoned by the exhaust gas from the gasoline generator during a mudslide repairment in a agricultural-water tunnel.	25 / 60
1966	Sweden	Biological fouling of the poly chlorinated biphenyl was discovered.	
	Japan	Osaka Gas constructed a non-toxicity fuel-gas plant. The automatic continuation roofing was introduced at the iron mill, and the accident rate reduced to 1/16.5, compared with the manual operating period (1951).	
1967-10-16	The Setouchi sea	Tetraethyl-lead liquid leaked during the cruise of the cargo boat Bostonmaru. People cleaning the interior of the ship were poisoned.	8 / 20
1967	Japan	The construction of the Shin Nippon Steel's Sakai iron mill completed. The construction took a toll of lives.	43 / -
	Japan	The department of safety engineering was newly established in the Yokohama National University.	
	Japan	Self-control was exercised for the cadmium addition toxicity of the fluorescent light fluorescent substance.	
1968-04-01	Japan	Tetra-alkyl-lead poisoning prevention regulation was made.	
1968-05-16	Hokkaidou	There was an earthquake off Tokachi. Outbreak of fire occurred because oil heaters were turned over. The automatic switching-off system of the oil heaters when vibration occurred was standardized in 1972.	52 / 330
1968-07-30	Yubari, Hokkaidou	Fire broke out from the overheating of the prime mover inside the mine of the Hokutan Heiwa Mine.	f
1968-08-09	Arabian-Sea	The tanker "Youhoumaru" was partially damaged during the cruise, and crude-oil spilled out.	0 / 0
1968-08-18 01:30頃	Shirakawa, Gifu	Two charter busses fell into the Hida River because of the mudslide occurred from the typhoon No. 7.	119 / 29
1969-01-05 11:30	Off Yajimazaki, Chiba	The hull of the ore transport-ship "Boribaamaru" broke and sank.	31 / 1
1969-04-01	Sumida, Tokyo	Steel-sheet-pillings of the Shin-Yotsuki Bridge collapsed during the ring beam method construction.	8 / -
1969-04-04 12:45	Bunkyo, Tokyo	Explosion occurred in the hyperbaric-oxygen medical-treatment room of the Tokyo University Infirmary.	4 / 0
1969-04-25 08:24	Kurum, Fukuoka	A rubber factory was burned.	11 / 7
1969-11-25	Osaka	A pneumatic-caisson-flood occurred from unusual depression during the sluice construction in the Shirinashi River.	11 / 5
1969	Japan	Pronatis-retinopathy frequently occurred when oxygen utilized upbrining box was used.	
1970-02-09	Off Yajimazaki, Chiba	The ore transport ship "California Maru" was flooded and sank.	5 / 0
1970-04-08 17:15	Osaka, Osaka	The town-gas spouted and exploded from the medium-pressure gas pipe at the construction site of the Tenroku Subway.	79 / 425
1970 - 10-24 13:43	Nagasaki, Nagasaki	The rotor bursted and dispersed during the turbine revolution test at a shipbuilding yard.	4 / 61
1970-12-09 11:00	Kumagaya, Saitama	The oxygen and acetylene containers under welding exploded at a factory.	8 / 8
around 1970		Normal slate -> Safety slate (prevent the treading-through fall on the slate roofing).	

## Uninhabited tunnel shield driving method.

1971-07-30 14:00	Shizukuishi, Iwate	The ALL NIPPON AIRWAYS B727 and the Self-Defense Forces F8 6F fighter under training collided in the air.	162 / 1
1971-11-11 15:30	Kawasaki, Kanagawa	People were crushed under of the great amount of mud and rocks which fell down during the cliff collapse experiment at the Ikeda Ryokuchi.	15 / 10
1971-12-04 21:50	Toyonaka, Osaka	The municipal purification plant had chlorine spouted during the interchange of the chlorine cylinder for disinfection. The nearby citizens took shelter.	0 / 375
1971-12-25	Soul, Korea	The Tainenkaku Hotel was burned.	163 / 63
	Japan	147 people (the largest number of people) became the victim of the labor disasters caused by oxygen deficit.	
1972-02-21 12:00	Kashima, Ibaragi	The accessory heavy-fuel oil boiler of a cargo boat exploded and the boat sank.	12 / 2
1972-05-13 around 22:27	Southern Osaka	Fire broke out from the electric construction site on the third floor of the seven-story Senjitsu department store. The smoke went up to the seventh floor and many people died.	118 / 81
1972-06-05 14:00	Kainan, Wakayama	At the electric power plant of the Kansai Electric Power Company, The shaft oscillated and bursted during the trial run of the generator. The fire caught on to the hydrogen for cooling.	0 / 0
1972-09-27	Fukushima	The indication of the computer hindered, and a train derailment accident occurred in the Kooriyama marshalling yard.	0 / 0
1972-11-06 01:13	Fukui	Fire broke out from the dining car of the express in the Hokuriku Line's Hokuriku tunnel. The power failed during the separation of the dining car and the passengers were poisoned by carbon monoxide.	30 / 714
1973-08-12 22:50	Oita	The chemical-plant's pesticide bailment was burned, and poisonous gas was generated.	0 / 202
1973-08-12 04:40	Korea	A petroleum-tanker overturned in the Kyongbu Line Yongdong station and burned.	46 / -
1973-11-29 around 13:15	Kumamoto, Kumamoto	The Daiyou Department Store burned.	104 / 124
1973	Japan	Apartment houses and mansions exploded from LP gas. Chemical plants in industrial-complex exploded frequently.	
1974-08-30 12:45	Chiyoda, Tokyo	The Mitsubishi Heavy Industry's building was blasted by terrorism. Many people got hurt from the pieces of glass.	8 / 385
1974-11-09 13:38	The Tokyo bay Nakase route	A LPG tanker and a cargo-boat collided. They sank on the 28th.	33 / 6
1974-12-11	Japan	The shinkansen was suspended for half a day and the railway was entirely inspected for safety.	
1974-12-18 20:40	Mizushima, Kurashiki, Okayama	At the Mitsubishi Oil Mizushima oil-refinery, the heavy-fuel-oil spouted by the destruction of the desulfurization heavy-fuel-oil tank's bottom edge.	0 / 0
1975-01-06	Malacca Fretum, Singapore	A large tanker "Shouwamaru" stranded and crude-oil flowed out.	0 / 0
1978-06-12 17:12		An earthquake occurred off Miyagi Prefecture. 400 sets of elevators were damaged.	28 / 11128
		It became the motivation for placing of earthquake sensor.	
1978-09-09	Akagi, Gunma	While placing of concrete from the concrete mixer truck at the nose of the Ayado Bridge over the Tone River, the concrete fell with an extraordinary noise and workers were killed.	4 / 5
1978-10-12	Singapore	The oil tanker of Greece staying at the dock for repairment exploded.	76 / 67



1979-03-20 21:40	Minakami, Gunma	There was a fire at the construction site of the Joetsu Shinkansen Ooshimizu tunnel.	16	1
1979-05-21 14:00	Osaka, Osaka	Sparks went up while welding the fourth floor lift at the Sumiyoshi Rubber's office which is also a workshop. Fire caught on to the urethane in the first floor bailment and exploded.	7	0
1979-07-11 18:25	Yaizu, Shizuoka	There were car crashes on the Toumei highway Nihon-zaka tunnel. There was an explosion and 189 cars were damaged by the fire.	7	2
1980-08-16 09:30	Shizuoka, Shizuoka	The underground "golden town" near the station had a town-gas explosion.	15	222
1980-11-25	China	A drilling ship sank in the Bo Hai Oil Field.	72	-
1980	Japan	The industrial-robot began to spread from this year.		
1981-10-16 12:40	Yubari, Hokkaidou	There was an outburst of gas and fire explosion at Hokutan Yubari New Mine.	93	39
1981-11-17	Manila, Philippines	The Film Palace, a six-story building being built for the International Festival of Film, had a cave-in during the construction and people were buried alive.	22	35
1982-02-08 03:24	Chiyoda, Tokyo	Hotel New Japan had a fire.	33	34
1982-03-18 15:15	Sasebo, Nagasaki	Fire broke out from the Indian tanker Barauni under repair in the Sasebo heavy industry's Sasebo shipbuilding yard.	10	2
1982-10-03 08:30	Kiyotake, Miyazaki	The exhaust-pipe of the VLSI manufacture pretreatment building's plasma-CVD facility had fire.	1	4
1983-04-13	Indonesia	A liquified gas factories exploded.	3	500
1983-10-25	Off Hainan Dao, Kuangtung, China	The petroleum excavating ship submerged from the typhoon in the Glomar Java Sea.	78	-
1983-11-19	Phatum Thani, Thailand	The first floor of the toy manufacturing factory had been flooded by the deluge damage in September, and the second and third floor suddenly collapsed.	80	45
1983-11-22 12:48	Kakegawa, Shizuoka	At the recreation facility, the underfloor terminal-cock-bundle of the gas pipe of a restaurant was left open. The LP gas exploded and fire went up.	14	27
1984-01-18 13:50	Takada, Fukuoka	Fire broke out from the band conveyor in the Mitsui Sanike Ariake Coal Mine.	83	16
1984-06-20 13:50	Taiwan, China	In the Kaizan coal mine, the connection pin of the coal car fell off and the car ran uncontrolled, raising coal-dust. The cable was cut and the coal dust exploded.	74	8
1984-07-10	Taiwan, China	The oil of the ground burned from the cable sparks of the air-compressor electric motor in the Duanfang Coal Mine, and fire broke out.	103	21
1984-11-16 11:46	Setagaya, Tokyo	The underground laying slot exclusive for telephone-exchange cable had fire. 90,000 circuits and the on-line service of the bank was stopped.	0	0
1984-12-05	Sanxia, Taiwan	A cave-in accident occurred in the Kaizan Ikkou. 95 people were shut in.	95	3
1985-04-24 08:40	Takashima, Nagasaki	The Mitsubishi Coal Mining's Takashima Mine had a coal-mine gas explosion.	11	6
1985-05-17 15:35	Yubari, Hokkaidou	Methane exploded in the Mitsubishi Nandai Yubari Mine.	62	24
1985-08-12 18:56	Ueno, Gunma	JAPAN AIR LINES jumbo jet crashed and burned.	520	4
1986-03-15	Singapore	A seven-story hotel collapsed.	33	17
1987-07-23	Tokyo	The intense heat caused rapid increase of electricity, and electric power failure took place in wide area.	0	0
1988-03-13	Japan	Seikan Submarine Railroad Tunnel was opened to traffic.	33	-

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1991-10-03	Miyazaki	The tire of the linear motor car had a puncture during the travel-motion test, and the car went up on fire and was destroyed.	0	0
1991-12-22	Osaka	The organic solvent exploded and burned during a repairment of the edible-oil plant's oil-and-fats successive-extraction equipment.	8	0
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1993-10-05	Osaka	The unattended train of the new transportation system ran out of control and collided into the bumping post.	0	194
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1993-12-11	Malaysia	A 12-story apartment building collapsed. The ground may have gave in from the rain fall.	73	-
1994-03-10	Soul, Korea	The underground communication cable burned. Several 100,000 circuits were tied up.	0	0

1994-04-25	Nunakuma, Hiroshima	The wire broke during the unloading of a lifeboat in a shipbuilding yard, and the boat was dropped.	2/11
1994-04-26	Aichi	The China Airline's airplane failed in the landing at the Nagoya Airport and crashed.	264/7
1994-06-23	Osaka, Osaka	A gondola crashed while painting the bridge.	2/5
1994-10-01	Toyama, Chiba	The fireworks laboratory of the Firework Conservation Association exploded.	3/10
1994-10-09	Ueda, Ngano	Gasoline leaked from the connection after the piping work of the oil tank. It led to an explosion with fire.	3/1
1994-10-21	Soul, Korea	The Songsu Bridge collapsed.	32/17
1994-11-18	Takasago, Hyogo	Explosion occurred during the spraying activity for flaw detection in the resina drying tower of the chemical plant.	2/1
1994-12-24	Taito, Tokyo	At the sole machining factory, the polish dust of the dust collector exploded and went up on flames.	5/21
1995-01-17	Hyogo	The Hanshin and Awaji Earthquake occurred. The urban safety myth collapsed.	6432/43792
1995-02-11	Azumi, Nagano	A phreatic explosion occurred during the construction of the tunnel access-road.	4/0
1995-05-30	Kawasaki, Kanagawa	People were poisoned by the hydrogen-sulfide leaked from the sulfur-recovery apparatus of the petroleum-refinery.	4/-
1995-06-29	Soul, Korea	The Sangpun Department store collapsed.	532/937
1995-07-31	Saitama	The hyperbaric-pressure air-chamber for the metal works extrusion press exploded.	1/20
1995-08-16	Chiba	An oxygen deficit occurred in an underground agricultural silo.	3/1
1995-10-28	Off Fukushima Pref.	Chlorofluocarbon leaked out in the engine room of a squid fishing boat.	4/0
1995-11-08	Saitama	The automatic product warehouse of a canning factory was burned down completely.	3/-
1996-01-11	Iwaki, Fukushima	The oxygen leaked in the blast furnace of refinement works, and working uniforms were burned.	3/0
1996-02-10	Furubira, Hokkaidou	The national highway tunnel collapsed.	20/1
1996-03-19	Philippines	A disco had a fire and there was no emergency exit.	159/51
1996-04-16	Etajima, Hiroshima	An explosion occurred during a powder filling activity at a processed goods works.	3/1
1996-06-18	Ichihara, Chiba	A gas explosion occurred inside the boiler flue at thermoelectric-power-plant.	2/1
1996-08-23	Off northern Ireland	Chlorofluocarbon leaked from a Japanese tuna fishing boat.	5/0
1996-11-20	Hong Kong	A mixed-use building had a fire.	39/81
1996-12-06	Otani, Nagano	A boulder-flow occurred during a ebris-dam construction.	14/8
1997-01-29	Changsha, Hunan, China	Fire broke out from the second floor of a hotel and spread to the seventh floor. People jumped off from windows.	39/100
1997-02-04	Xichang, Szuchuan, China	Fireworks powder stored in a residence exploded. 20 housings were destroyed.	21/26
1997-03-04	Pingdingshan, Henan, China	A gas explosion occurred at a coal mine.	86/12
1997-03-11	Tohkai, Ibaragi	The drum used in the asphalt solidification establishment of the Power Reactor and Nuclear Fuel Development Corporation reprocessing plant burned and exploded. Wokers were contaminated.	0/37

1997-04-27	Off Chollanam-do, Korea	A cargo boat was submerged and overturned.	10/0
1997-05-02	Caijiao, Shantung, China	A gas explosion occurred in the Nanxiye Coal Mine. The ventilation system below criteria was the cause.	31/-
1997-05-04	Chongqing, Szuchuan, China	There was a explosion and fire in the effluent-treatment facility of a chemical plant.	12/6
1997-05-28	Fushun, Liaoning, China	An explosion occurred in the Beilonghuang Coal Mine.	69/-
1997-07-12	Chehiang, China	The five-story company residence of a cotton-fabric works collapsed suddenly.	36/3
1997-08-06	Guam	The Korean Air B747-300 with 254 people aboard crashed and burned.	226/28
1997-09-11	Nagoya, Aichi	A town-gas explosion occurred on the first floor of a 13-story building under modification.	0/37
1997-09-13	Gaoxiong, Taiwan	There was an explosion and fire during the withdrawal of the petroleum firm's underground LPG pipeline.	4/24
1997-09-21	Jinjiang, Fuchien, China	Fire broke out frm near the shoe storing place on the first floor of a shoemaking works used also a lodge. The lodging employees could not escape and burned to death.	32/4
1997-12-12	Heilungchiang, China	The Harbin Hotel had a fire.	30/17