



09

# Man-Made Cats Hit USD7 Billion in 2008

NINE

TWO THOUSAND



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## 1

## Executive Summary

Man-made and technological catastrophes caused around USD7 billion in insured losses last year. This put 2008 losses around 46 percent higher than the annual average of USD4.8 billion, according to data from Swiss Re. Nineteen known events resulted in insured losses of more than USD50 million each, according to publicly available information. These events occurred in 11 countries, with losses ranging from USD80 million to nearly USD2 billion.

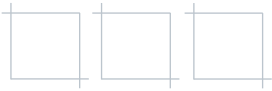
**Table 1: Significant Risk Losses of 2008**

Date	Event	Country/Location	Estimated Cost
7 January	Severstal steel plant explosion	United States	400
15 January	General Mills food plant fire	Argentina	100
17 January	BA crash landing	United Kingdom	120+
25 January	MGM Monte Carlo Hotel fire	United States	90
January/February	Business interruption losses for BHP Billiton	Australia	1,500
7 February	Imperial Sugar refinery explosion	United States	380
18 February	Alon oil refinery explosion	United States	525
23 March	Meat plant fire	United States	100
25 March	Fireworks warehouse fire	United Arab Emirates	250
5 April	Icepak cheese storage explosion/fire	New Zealand	n/a
24 April	Offshore Al-Jurf oilfield damage	Libya	175
1 June	Universal Studios fire	United States	400+
3 June	Apache Energy gas plant explosion/fire	Australia	1,800
20 August	Spanair plane crash	Spain	300
11 September	Channel Tunnel fire	English Channel	230
17 September	Medgaz pipeline accident	Mediterranean Sea	200
14 October	ISAB power plant fire	Italy	300
13 November	Engen oil refinery fire	South Africa	80
26-29 November	Mumbai terrorist attacks	India	300-600

Sources:  
The Insurance Insider, Insider Quarterly,  
Swiss Re, Daily Telegraph, Insurance Day  
Note: cost estimates in USD millions

Nearly half of 2008's man-made catastrophe losses were caused by two events: an explosion and fire at an Apache Energy offshore gas plant (USD1.8 billion) and BHP Billiton's business interruption losses (USD1.5 billion) – both in Australia. Two events in the United States caused losses of more than USD400 million, and the terror attack in Mumbai, India, could trigger insurance claims of up to USD600 million.

Risk losses in the mining, energy and steel industry were particularly large in 2008, with claims exacerbated by the impact of record high commodity prices on business interruption cover. Apache Energy's offshore gas plant explosion and fire – on Varanus Island in Western Australia – interrupted the supply to one of the world's most significant mining areas, reducing the supply of natural gas to the region by 30 percent, which was a major factor in pushing the incident's insured losses to nearly USD2 billion.



## 2

## First Quarter 2008

**Location:** Dearborn, Michigan, United States

**Event:** Severstal steel plant explosion

**Fatalities:** 0

**Insurance Details:** A blast furnace exploded at a Severstal steel plant in Dearborn, Michigan, on 7 January 2008, causing extensive damage and the suspension of production. The incident occurred when molten metal breached the furnace's outer shell, and the breakdown caused heated raw materials and some liquid metal to spill from the furnace to the floor. One worker, a contractor with utilities infrastructure company Dano Corporation, was injured in the explosion. Severstal said it would fully refurbish the "B" blast furnace and estimated that the outage and decline in overall production (of around 35 percent) will last for 18 to 24 months.

*Sources: The Detroit News, Reuters News, Metal Bulletin News, Insider Quarterly, Insurance Insider*

**Location:** Buenos Aires, Argentina

**Event:** General Mills food plant fire

**Fatalities:** 0

**Insurance Details:** A fire destroyed a food plant owned by a subsidiary of U.S. food giant General Mills on the outskirts of Buenos Aires, Argentina, on 15 January 2008. Argentine television broadcast images of a thick plume of smoke rising from the plant and flames burning through the facility. Due to the rapid spread of the fire, officials decided to evacuate the area around the plant. Officials said all 450 workers at the plant were able to get out. Reports said 15 fire units were needed to put out the blaze.

*Sources: EFE News Service*

**Location:** Heathrow Airport, London, United Kingdom

**Event:** Plane crash landing

**Fatalities:** 0

**Insurance Details:** An inbound British Airways passenger plane carrying 152 people made an emergency landing several hundred metres short of the south runway at Heathrow Airport on 17 January 2008, damaging the aircraft, injuring 13 people, and causing delays at one of the world's busiest airports. Flight BA038 was arriving from the Chinese capital Beijing when the incident occurred at 12:42 UTC. All 136 passengers and 16 crew on board the Boeing 777 escaped down the emergency chutes after the crash landing. Sources quoted by Business Insurance said the value of the Boeing 777 was around GBP63 million (USD123 million), while the airline has USD2.25 billion of liability insurance to cover passenger injuries. Insurance Day added that policies led by Global Aerospace Underwriting Managers could be triggered if engine or aircraft failure proves to be the cause of the crash, as the pool is reported to lead coverage for both the air-

craft manufacturer, Boeing, and Rolls Royce, the engine manufacturer. An Air Accidents Investigation Branch (AAIB) interim report into the incident said it was likely to have been caused by ice in the jet's fuel system. The flow of fuel dropped, causing the engines to lose power less than a minute before touchdown. However, investigators said they still do not know how the ice formed. The AAIB's final report into the crash landing is expected to be published in 2009.

Sources: CNN News, BBC News, Associated Press, Agence France Presse, Reuters News, Business Insurance, Insurance Day

**Location: Monte Carlo Hotel, Las Vegas, United States**

**Event: Fire at Monte Carlo Hotel**

**Fatalities: 0**

Insurance Details: Guests were evacuated from the Monte Carlo Hotel in Las Vegas on 25 January 2008, after a fire broke out on the roof and top floor of the building. The blaze broke out at about 11:00 local time (19:00 UCT) but the flames were brought under control about an hour later. The hotel was forced to close after the fire and partially reopened in February. The hotel's owner, MGM Mirage, reopened 1,200 of the hotel's approximately 3,000 rooms on 15 February 2008, and an additional 1,300 rooms were reopened on 22 February 2008. The remaining 500 rooms – mostly suites on the upper floors where damage was more extensive – underwent complete renovations and took longer to reopen. MGM Mirage said the fire cost USD90 million in repairs and lost business and most of the loss was covered by insurance. The hotel was built in 1996 at a reported cost of more than USD300 million.

Sources: BBC News, Reuters News, Associated Press, Las Vegas Sun

**Location: Queensland, Australia**

**Event: Business interruption losses for BHP Billiton**

**Fatalities: 0**

Insurance Details: Severe flooding between 18 January 2008 and 20 January 2008 and 9 February 2008 and 15 February 2008 forced mining giant BHP Billiton to declare force majeure on contract deliveries from its seven mines in central Queensland. In all, production was disrupted at 33 coal mines across Queensland, affecting several other mining companies (including Rio Tinto, Xstrata Coal and Ensham Resources). However, mines jointly owned under an alliance between BHP and Japan's Mitsubishi Corp (BMA) were the worst hit as operations were initially suspended and normal output at some of the mines was reduced for up to six months. The impact of the flooding on BHP Billiton's sites resulted in significant volumes of water and mud flowing into the pits. The heavy rainfall also damaged mine equipment and cut access to roads and rail lines across large parts of the coal belt. In total, BHP Billiton said the floods slashed production from mines belonging to BHP Billiton Mitsubishi Alliance by up to 8.5 million tonnes, worth around AUD920 million (USD593 million). BHP Billiton said it had insurance cover for property damage and business interruption losses, which are estimated to have totalled around USD1.5 billion.

Sources: The Australian, Australian Financial Review, The Advertiser, Dow Jones International News, Reuters News, Australian Associated Press, The Courier-Mail, Insider Quarterly

**Location:** Port Wentworth, Georgia, United States

**Event:** Sugar refinery explosion

**Fatalities:** 13

**Insurance Details:** A massive explosion destroyed a sugar refinery in Port Wentworth, Georgia, on 7 February 2008, killing 13 workers and injuring more than 30 others. The powerful blast shook homes in Georgia and neighbouring South Carolina. The explosion, at Imperial Sugar Company, happened shortly after 19:20 local time (00:20 UTC on 8 February) and totally destroyed the company's three-storey building. Fire officials said the initial explosion started a fire that spread and gutted other parts of the refinery. More than 100 people were in the plant when the blast occurred. Investigators said they believe the disaster started in a room where workers bag sugar and that it was possible that sugar dust from the refining process had ignited, sparking the explosion. A spokesman for Imperial Sugar Company said the Port Wentworth refinery is 872,000 square feet, and some 111,000 square feet (around 12 percent) was destroyed in the incident. The plant sat idle for months until Imperial Sugar resumed refining sugar in November, when it unveiled a new 75,000-square-foot packaging plant to replace the one destroyed. Imperial said the explosion cost the company USD63.3 million, and insurance recoveries totalled USD36.1 million. The company added that the restructuring process is estimated to cost up to USD220 million, which is "within the limits of our insurance coverage."

*Sources: CNN News, Associated Press, Agence France Presse, Reuters News, CBS News, Just-Food, Knobias*

**Location:** Big Spring, Texas, United States

**Event:** Alon oil refinery explosion

**Fatalities:** 0

**Insurance Details:** A massive explosion and fire rocked the Alon 70,000 barrel-per-day oil refinery in Texas on 18 February 2008, causing severe damage, injuring four workers, and shaking buildings miles away. The explosion occurred near the propylene splitter unit at the refinery, destroying a propylene recovery unit and damaging alkylation and gas concentration units, Alon said. The company was forced to shut down the refinery for almost two months until it was partially restarted on 10 April 2008. Its full 70,000 barrel-per-day capacity was reached in September. Alon said its insurance for property damage and business interruption was expected to cover the cost of the damages. Alon said its coverage combined a single limit of USD385 million for property damage, with a USD2 million deductible, and business interruption coverage with a 45-day waiting period. Alon also has third-party liability insurance, which provides coverage with a limit of USD150 million and a USD5 million deductible. In November, the company said USD280 million had been claimed for property damage repairs following the fire and at least USD90 million had been claimed for business interruption.

*Sources: Reuters News, Associated Press, Dow Jones News Service, PR Newswire, Voxant*

**Location: Booneville, Arkansas, United States**

**Event: Cargill meat plant fire**

**Fatalities: 0**

Insurance Details: A fire destroyed a Cargill Meat Solutions (unit of Cargill Inc) beef processing plant in Booneville, Arkansas, on 23 March 2008. Reports said sparks from welding equipment ignited the fire. Although nobody was injured in the blaze, around 1,000 people in Booneville were temporarily evacuated amid concerns about leaking ammonia gas and heavy smoke. The 150,000 square foot (14,000 sq. metre) plant, which produced frozen ground beef patties and portion control steaks for the food service industry, employed about 800 workers and could process 500,000 pounds of beef a day, according to Cargill's website. Officials estimated the plant was worth more than USD100 million before the fire, and had just finished a USD40 million expansion. Cargill said it would not rebuild the plant in Booneville.

Sources: Reuters News, Associated Press Newswires, The Arkansas Democrat Gazette

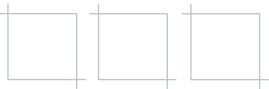
**Location: Dubai, United Arab Emirates**

**Event: Fireworks warehouse fire**

**Fatalities: 2**

Insurance Details: A huge blaze ripped through a fireworks warehouse in an industrial area of Dubai on 25 March 2008, killing two people and injuring two more. The blast in the al-Quoz Industrial Area, which is home to hundreds of businesses and factories, caused a fireball to shoot 330 feet (100 metres) into the sky, with flames spreading to around 40 nearby buildings. More than 100 firefighters battled the blaze. An Interior Ministry official said the explosion occurred when fireworks were being loaded onto a truck for transport. The fireworks were believed to have been smuggled into the country illegally, he added. The official put the extent of the damage at more than USD250 million, while the Emirates Insurance Association estimated the damage at USD150 million. The Civil Defence said "inappropriate storage of fireworks may have been the cause of the explosion".

Sources: Agence France Presse, Dow Jones International News, Reuters News, RIA Novosti, Associated Press Newswires



## 3

## Second Quarter 2008

**Location:** Hamilton, New Zealand

**Event:** Icepak cheese storage explosion and fire

**Fatalities:** 1

**Insurance Details:** An explosion and fire at an Icepak cheese storage complex near the city of Hamilton flattened the building and destroyed up to 4,000 tons of cheese worth NZD25 million (USD13 million) on 5 April 2008. The fire was left to burn out as fire crews ran out of water with which to battle it. Reports said the property was not protected by sprinklers. One firefighter was killed and eight others were injured as they attempted to extinguish the blaze.

*Sources: New Zealand Press Association, Associated Press Newswires, Australian Broadcasting Corporation, Newstalk ZB, The Nelson Mail (NZ,) Waikato Times*

**Location:** Offshore Al-Jurf oilfield damage, Libya

**Event:** Damage and shutdown of Al-Jurf oilfield

**Fatalities:** 0

**Insurance Details:** A mechanical failure caused Libya's offshore Al-Jurf oilfield to shut-down on 24 April. The 70,000 barrel-per-day field is operated by Mabruk Oil Operations, a subsidiary of French oil major Total. During the drilling operation of one of the development wells, B18 (gas injection well), a deviation occurred in the well trajectory resulting in damage in the production pipe of the adjacent well, B12. For security reasons, all the platform wells were shutdown. Production from the oilfield is not expected to resume until early 2009, but repairs were completed in November.

*Sources: Datamonitor News, Global Insight Daily Analysis, International Oil Daily, Platts Oilgram News*

**Location:** Los Angeles, California, United States

**Event:** Universal Studios fire

**Fatalities:** 0

**Insurance Details:** Ten firefighters were injured when a massive fire severely damaged several movie sets and exhibitions at Universal Studios in California on 1 June. According to fire officials, the blaze started at about 04:45 local time (11:45 UTC) and ripped through several sets and warehouses, sending plumes of smoke into the air which were visible for several miles. The fire destroyed a soundstage, a New York streetscape used in films and TV shows, most of the town square seen in the "Back to the Future" movies, and a Universal Studios King Kong tour attraction. Reports said the fire spread to the size of two city blocks and burned for 12 hours before 500 firefighters were able to extinguish it. The park was closed all day on 1 June 2008 but Universal said it re-opened the next day. Reports said the damage from the fire could be as high as USD500 million, and an investigation into the cause suggested it was accidentally started by workmen using a blowtorch on the roof of a film set. A Universal spokeswoman said it was insured for the damage and lost business.

*Sources: Los Angeles Times, CNN News, Associated Press, Agence France Presse, Reuters News, CBS News*

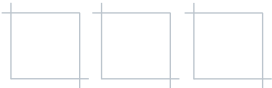
**Location:** Varanus Island, Western Australia

**Event:** Apache Energy gas plant fire

**Fatalities:** 0

**Insurance Details:** An explosion and fire at an Apache Energy offshore gas plant on 3 June 2008, in Western Australia cut supplies to industrial customers, including major resources firms, for two months, as the plant was severely damaged. None of the plant's 152 employees were injured in the explosion, but it disrupted industrial companies in Western Australia severely, as the plant supplies 30 percent of the state's needs. The drop in gas supplies forced mining companies, metals refiners, and other industrial users in the state to reduce their production. As Western Australia lost one-third of its domestic gas supply, the shortage resulted in thousands of workers being laid off or asked to take their annual leaves until supplies were partially resumed in early August (110 million cubic feet of natural gas per day). Apache Energy had still not restored gas production at the plant to its full capacity of 180 million cubic feet by January 2009, when gas production was at 85 percent. The Chamber of Commerce and Industry said the explosion had cost the state's economy AUD2.4 billion (USD2.2 billion), and may eventually cost up to AUD6.7 billion (USD6.3 billion). According to Swiss Re, the incident triggered insurance claims worth USD1.8 billion.

*Sources: Reuters News, Australian Associated Press, Associated Press, Agence France Presse, Swiss Re, The Australian, Dow Jones International News, Platts Commodity News*



## 4

## Third Quarter 2008

**Location:** Barajas Airport, Madrid, Spain

**Event:** Plane crash

**Fatalities:** 153

**Insurance Details:** A Spanair plane carrying 172 passengers and crew crashed as it attempted to take off from Madrid's Barajas Airport on 20 August 2008, killing 153 people. A preliminary report said the aircraft crashed because the wing flaps were in the wrong position. According to Business Insurance, ACE Ltd leads cover for the crashed airliner under a policy for a group of airlines that includes SAS. In addition to SAS, the group includes Austrian Airlines, Finnair, Icelandair and TAP Portugal. Business Insurance said Spanair is covered under the hull and liability programme written for the SAFIT Group. According to Business Insurance, market sources said the MD-82 jet was valued at USD9 million. The MD-82 was carrying a total of 162 passengers, four non-working crew members and six working crew members, Spanair said. A spokesman for Spanair said the plane had passed a safety inspection in January. Spanish media said Spanish, German, Swedish, Chilean, and Colombian nationals were among the passengers. Barajas Airport closed after the crash but reopened more than two hours later, allowing a limited number of takeoffs and landings, an airport official said.

*Sources: CNN News, BBC News, Associated Press, Agence France Presse, Reuters News, Business Insurance*

**Location:** Channel Tunnel, English Channel

**Event:** Channel Tunnel fire

**Fatalities:** 0

**Insurance Details:** The Channel Tunnel was forced to close on 11 September 2008 after a "serious fire" broke out on a freight train carrying 27 trucks about 7 miles (11 kilometres) from Calais. Thirty-two people on board were led to safety, 14 of whom had suffered minor injuries, including smoke inhalation. More than 300 French and British firefighters tackled the blaze overnight, and some 27 vehicles were affected. The fire was detected about four-fifths of the way through the 30 mile-long (50 kilometre) northbound tunnel on the freight train travelling from Folkestone to Calais. The fire raged for almost 20 hours, and all train traffic was suspended for two days, leaving tens of thousands of Eurostar passengers stranded. Temperatures reached 1,800 degrees Fahrenheit (1,000 degrees Celsius) during the fire, damaging the northbound tunnel and forcing its closure. Train traffic resumed slowly on 13 September 2008 with a reduced Eurostar passenger service operating (about half the normal traffic). Trains were running in one of two tunnels that normally carry traffic until 22 September 2008 when the northbound tunnel was partially reopened. The damaged tunnel will completely reopen in February 2009. However, services were almost back to normal in October and the total cost of the repair work might reach about EUR120 million (USD155 million), according to a Eurotunnel

estimate. The company said revenue of EUR22 million (USD28.3 million) was lost as a result of the fire and resulting disruption of services. Officials said they suspected the fire started in a truck's braking system that overheated and spread to a tyre. Eurostar said five of its trains were en route when the fire broke out, with 2,000 passengers affected. According to the Daily Telegraph, Eurotunnel is believed to have made an insurance claim of around EUR180 million (USD230 million) for damage to the tunnel and business interruption. The lead insurer is Excel Insurance Services, the Daily Telegraph said.

Sources: BBC News, Agence France Presse, Reuters News, Associated Press, Daily Telegraph, Business Insurance, Financial Times

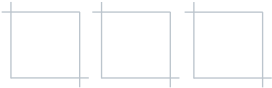
**Location: Medgaz Gas Platform, Mediterranean Sea**

**Event: Medgaz pipeline accident**

**Fatalities: 4**

Insurance Details: Four workers were killed and another four injured on 17 September 2008 in an accident on the Saipem-owned platform laying the Medgaz gas pipeline from Algeria to Spain. Saipem, the Italian oil services group building the Medgaz gas pipeline under the Mediterranean Sea, said a mechanical failure on one of the platform's cranes was responsible for the accident. The accident reportedly occurred when pipe section that was being lifted fell on a group of workers as they were moving it into the sea. All of the workers, except for one of the injured, were employed by Saipem. Work was halted on 17 September 2008 following the accident, and Saipem resumed construction of the deepwater section on 16 October 2008. The EUR900 million (USD1.2 billion), 630 mile (1,050 kilometre) pipeline was completed in December.

Sources: Reuters News, Agence France Presse, Platts Commodity News



## 5

## Fourth Quarter 2008

**Location:** Sicily, Italy

**Event:** ISAB power plant fire

**Fatalities:** 0

**Insurance Details:** The 562-MW ISAB power plant in Sicily was shutdown after it was damaged by a fire on 14 October 2008. Part-owner International Power said there was a fire at one of the two power generation units at the plant. International Power is part of a consortium with Mitsui that owns 49 percent of the power plant. The other 51 percent is owned by ERG. Nobody was injured, but due to the damage caused by the fire, both power generation units were shutdown. One unit is expected to be operating again in January 2009 and the second production line, or power train, which accounts for 50 percent of the plant's production capacity, is expected to remain offline throughout 2009, ERG said. The company added it expected to restart the second power train within the 20 month limit of insurance coverage, sufficient "to cover both the damage to the plant and the damage resulting from the interruption in production, excluding deductibles."

*Sources: Power in Europe, Platts Commodity News, Reuters News*

**Location:** Durban, South Africa

**Event:** Oil refinery fire

**Fatalities:** 0

**Insurance Details:** An oil refinery in Durban was shutdown for months after a large fire broke out on 13 November 2008. The fire at the Engen oil refinery started in the main crude unit, the facility that feeds crude oil into the refinery's processing units. The blaze broke out shortly after midnight and burned for around three hours before being put out at 03:10 local time by the refinery's own fire fighting team. Investigations said the fire was caused by a mechanical problem related to pump failure. Engen described the damage at the main crude unit as "quite significant" but said no-one was injured. Reports said the plant, located in Durban's southern Wentworth suburb, supplies South Africa with almost 20 percent of its refined fuel and is the country's second largest refinery. Engen said the refinery, which has a capacity of 135,000 barrels per day, would be shutdown until January 2009. The refinery's manager said the shutdown is going to cost in the region of 6.2 million rand (USD600,000) a day and the total cost could run into hundreds of millions of rand (including 50 million rand for repairs alone). Engen said the fire destroyed some 50,000 litres of crude and the shutdown would force it to import refined oil and oil products for the period of the closure.

*Sources: South African Press Association, Reuters News, Daily News, Cape Argus, The Times (SA), Business Report*

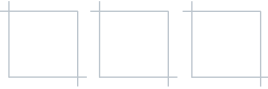
**Location:** Mumbai, India

**Event:** Terrorist attack

**Fatalities:** 179 people confirmed dead

Insurance Details: At least 179 people were killed and more than 300 injured when a team of militants armed with explosives and guns caused extensive damage to several tourist sites in the Indian financial centre of Mumbai in attacks that started on 26 November 2008 and ended on 29 November 2008. Security officials said as few as 10 highly trained militants carried out the attacks and they targeted key sites in the city that included two upmarket hotels (Taj Mahal Hotel and Oberoi Hotel), a popular café (Leopold Café), a major railway station (Chattrapati Shivaji) a hospital (Cama) and a Jewish centre (Nariman House). The buildings were badly damaged by the explosions and gun fighting and Insurance Day said the attacks could cost the insurance industry between USD300 million and USD600 million in property claims alone. According to officials, some of the militants arrived in Mumbai by rubber dinghy around 21:00 local time (16:00 UTC) on the night the killings began while the rest are reported to have been in the city for months gathering information on their targets. One of the first places to be attacked was the Chattrapati Shivaji railway station, where gunmen entered the platforms and fired on people indiscriminately. The militants then targeted other buildings in the city before Indian forces killed the last of the gunmen at the Taj Mahal Hotel on 29 November 2008, bringing an end to the attacks.

Sources: BBC News, Xinhua News Agency, Associated Press, Agence France Presses, Insurance Day, Reuters News



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