

Introduction To Some of the Worst Engineering Failures

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Ford Pinto gas tank disaster



- Faulty designed gas tank led to the deaths of hundreds of people.
- Ford knew the problem existed before production.
- But the all mighty dollar led to the car being produced in its dangerous form.

Ford's Problems

- Ethical issue with conflict between Engineering and Business Issues.
- Use of Cost-Benefit analysis caused the loss of life of hundreds.
- Ford figured they would kill 180 people with the pinto, which would cost them 49.5 million dollars.
- The cost of making the car safe was 11 dollars a car, for a grand total of 137 million dollars.

The horror of bad ethics

Since the cost of the projected law suits was less than the cost of making the car safe. Ford made the death trap.



In the end though just one lawsuit against the company cost Ford 128 million dollars. Also the Pinto ruined the reputation of Ford.

Union Carbide Chemical Leak



- On December 3, 1984 Union Carbide leaked a poisonous gas into the slum neighborhood in Bhopal, India
- Once again the pursuit of increased profits cost the lives of innocent people.

Effects of the Gas Leak

- 4,000 people died the night of gas leak
- 15,000 people died as a direct result of leak
- More than 500,000 people have filed claims for injuries from the leak.

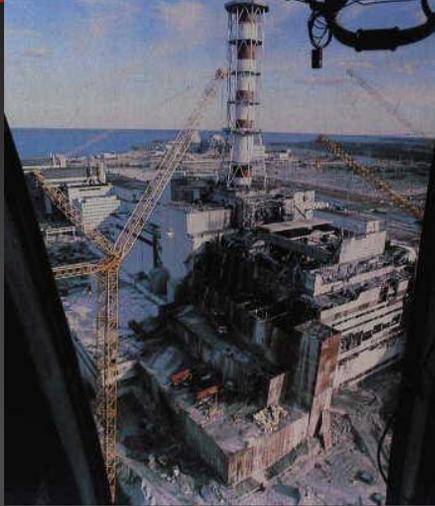
Reason for the Leak

- Irresponsible safety actions taken on the part of the company
- As the plant became less profitable, the major corporation made the plant cut back all safety programs to save money.
- Even though safety programs were needed, the lives of people around the plant were deemed expendable to produce more profits.

Effects on Union Carbide

- Was originally sued for 3 Billion dollars.
- Only had to pay out 470 million, because there influence with the Indian Government.
- One of the worst public relations nightmares ever.
- Company lost most of its worth, in falling stock prices.

Chernobyl Nuclear Disaster



What is Chernobyl?

- The Chernobyl accident in 1986 was a result of a flawed reactor design that was operated with lightly trained personnel and without proper regard to Safety.
- The accident was a steam explosion and fire that resulted in the release of 5 percent of the radioactive core to the atmosphere.

Effects of Chernobyl

- 30 people were killed, and there have been 10 other to die of thyroid cancer due to the accident.
- The effects of the radiation are still being seen today in birth defects.
- 70 cases of thyroid cancer were reported.
- The nuclear industry was forever scared by a horrible public image.

Ford Explorer Rollovers



What happened?

- A combination of a vehicle with a high center of gravity created with tires that were separating at speed caused a roll over condition.
- More than 200 hundred people died as a result of rollover accidents involving the Ford Explorer and Firestone Wilderness AT tires.

Who Fault is it anyways?



- The issue of the Explorer Rollovers is one of the most contested engineering disasters.
- Both companies have spent millions blaming each other.

Who was wrong?

- In the end both companies were to blame for the deaths of the individuals.
- The courts found that products were defective by design.