

# Famous Engineering Failures

## And What We Learned

### Deep Water Horizon Spill & Space Shuttle Challenger

**70,000mi<sup>2</sup>**  
Area of oil spill

- 1 Accident happened on April 20<sup>th</sup> ,2010 in the Gulf of Mexico
- 2 11 Deaths and 17 injured

**3** \$65 Billion dollars in damages to the environment

**4** None of the leaders in charge were convicted of a crime



#### WHY THIS IS IMPORTANT:

- 1) Brought concern to the environment
- 2) Gulf Environmental Benefit Fund
- 3) BP sold \$75 Billion assets



- Foamed cement
- Risk management
- Maintenance

# 100%

Avoidable

This all could have been avoided by having better risk management, being more familiar with foamed cement. (they used this when constructing the oil rig) and doing proper maintenance (there was a dead battery and bad wiring)

## SPACE SHUTTLE CHALLENGER O-RING FAILURE

#### SUMMARY:

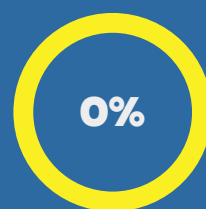
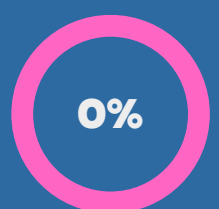
The space shuttle Challenger exploded 73 seconds after launch on 28 January 1986 killing all seven astronauts aboard. An O-ring seal failed at lift off causing a breach that let pressurized hot gas escape and ignite, affecting an external fuel tank leading to the explosion NASA management knew the design had a flaw in the O-rings but did not address this effectively. They also disregarded warnings from engineers.

-(Wilkinson, 2016)



#### HOW THIS COULD HAVE BEEN AVOIDED:

Safety > Speed  
Funding < Lives



#### LESSON LEARNED:

↑ **100% - 0%** ↓

**100% more testing and delays and 0% pre-mature flights**

#### CHANGES MADE AROUND THE WORLD:

**A complete overhaul of the Space Shuttle program, resulting in a three year grounding of flights.**

-Berkes, 2026