

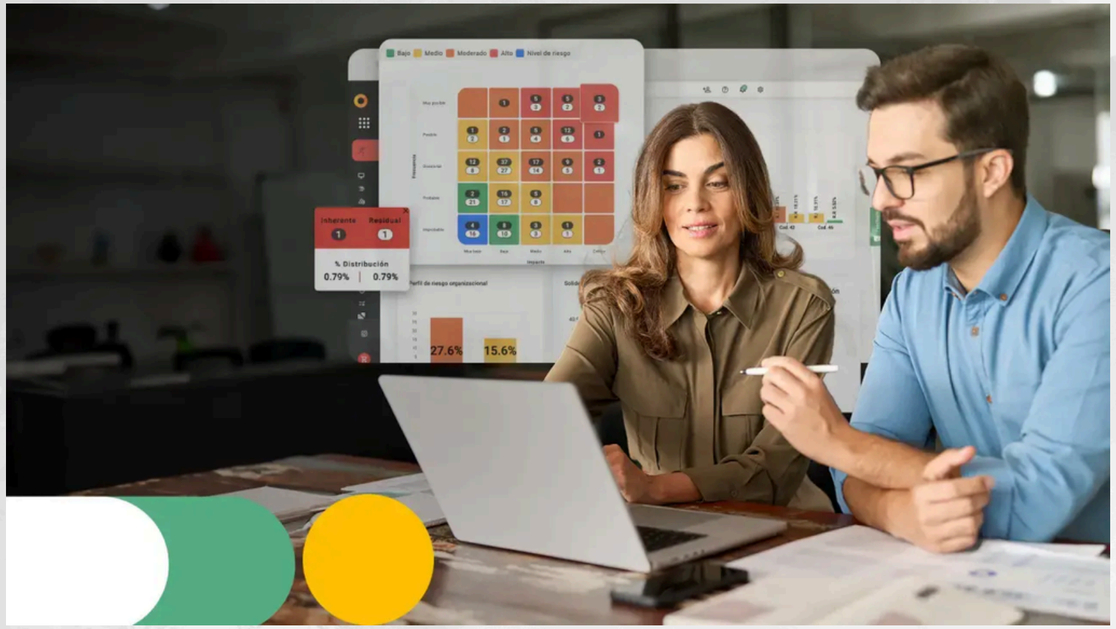
METHODS FOR ASSESSING OCCUPATIONAL RISKS

INTRODUCTION

This presentation will define risk assessment methods and their applications. It will also present real-life examples of cases where these important methods are not applied. Finally, it will offer recommendations for preventing these types of incidents.

WHAT ARE THESE METHODS?

Risk assessment methods are systematic techniques for identifying, analyzing, and evaluating potential risks that may affect a project, process, or organization. These methods help determine the likelihood of a risk occurring and the impact it could have, enabling informed decisions to be made about how to manage them.



WHAT ARE THE METHODS?

Qualitative method: This method assesses risks using categories such as low, medium, or high, depending on probability and severity. No numbers are used. It's quick and easy, but depends on the discretion of the person applying it.

Quantitative method: Evaluates risks using numbers and calculations to measure probability and severity. It provides more accurate and objective results, but is more complex and requires technical data.

Mixed method: This approach combines qualitative and quantitative aspects: first, it classifies risks into categories (low, medium, high) and then uses numerical data for greater precision. This results in a more complete and balanced analysis.

Example 1

COLLAPSE OF THE I-35W BRIDGE (MINNEAPOLIS, 2007)

In 2007, the I-35W bridge in Minneapolis collapsed, killing 13 people and injuring more than 140. The structural risk was poorly assessed: design flaws and previous warnings were ignored, and the impact of construction work that added weight was not reviewed. This case shows how poor risk assessment can have fatal consequences.



Example 2

CHERNOBYL NUCLEAR DISASTER (1986)

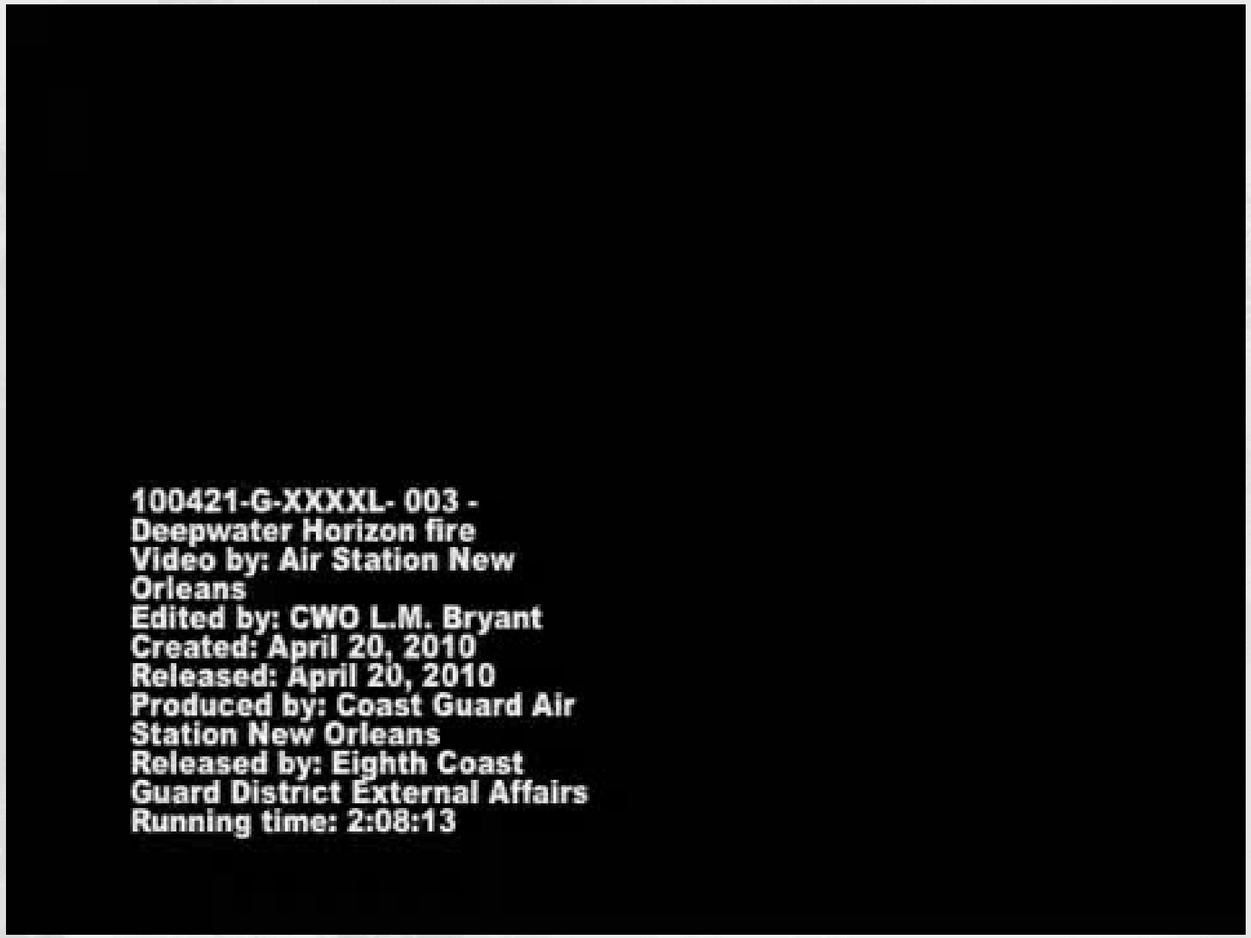
In 1986, Chernobyl's reactor 4 exploded due to a poorly planned safety test and inadequate risk assessment. Design flaws and safety protocols were ignored, and the human factor was underestimated. The disaster caused thousands of deaths and severe environmental and social damage. This accident has been considered the worst chemical disaster in history. And today, Chernobyl remains uninhabitable.



EXAMPLE 3

DEEPWATER HORIZON OIL RIG ACCIDENT (2010)

An explosion on BP's oil rig in the Gulf of Mexico killed 11 people and caused a massive oil spill that lasted 87 days. The accident was caused by failures in risk assessment, human error, poor cementing of the well, and failures in the blowout prevention system. It was one of the largest environmental disasters, with serious economic and ecological consequences.



Recommendations

Immediately assist the affected worker and ensure their safety.

Implement corrective measures (controls, training, protective equipment).

Officially report the accident to the ARL and the Ministry of Labor.

Report the accident or incident as required by law and the company.

Update the risk assessment to prevent a recurrence.

Secure and mark the area to prevent further accidents.

Investigate the cause to identify what failed and why the risk assessment was not applied.

Raise awareness among all staff about the importance of always applying evaluation methods.

Provide adequate personal protective equipment (PPE).



THANK YOU