Rail Accident Investigation Branch

Investigating organisational factors in ten easy steps

Accident Investigators seminar

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What does it all mean?

Organisational factors –What are they?... (not exhaustive!)

regulatory framework

safety management system

risk assessments & hazard identification

procedures & practices

training

internal/external audits

culture

resources

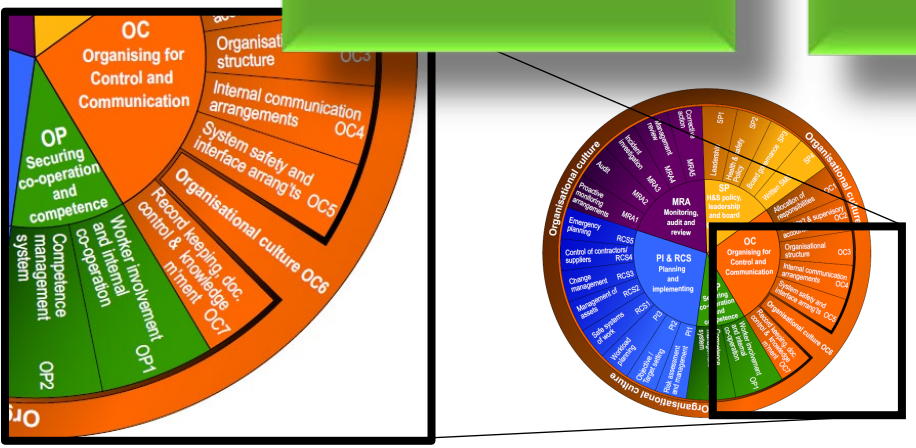
communication

leadership

management

competence management

monitoring & supervision



Why investigate organisational factors?

- To look at the whole system not just the individual, it is necessary to consider organisational factors
- In an investigation it is important to go beyond “what” happened and explain “why” an occurrence happens
- There is a need to look further than the ‘sharp end’ and to look at the underlying factors (which are often organisational) and often less visible
- By looking at organisational factors we can look at system interaction and influence, at relationships and interdependencies which may not always be obvious
- Finding organisational issues can have far reaching effects. Issues identified may impact on other parts of the organisation and could potentially contribute to other accidents
- To ensure good quality learning from an investigation we need to consider organisational factors

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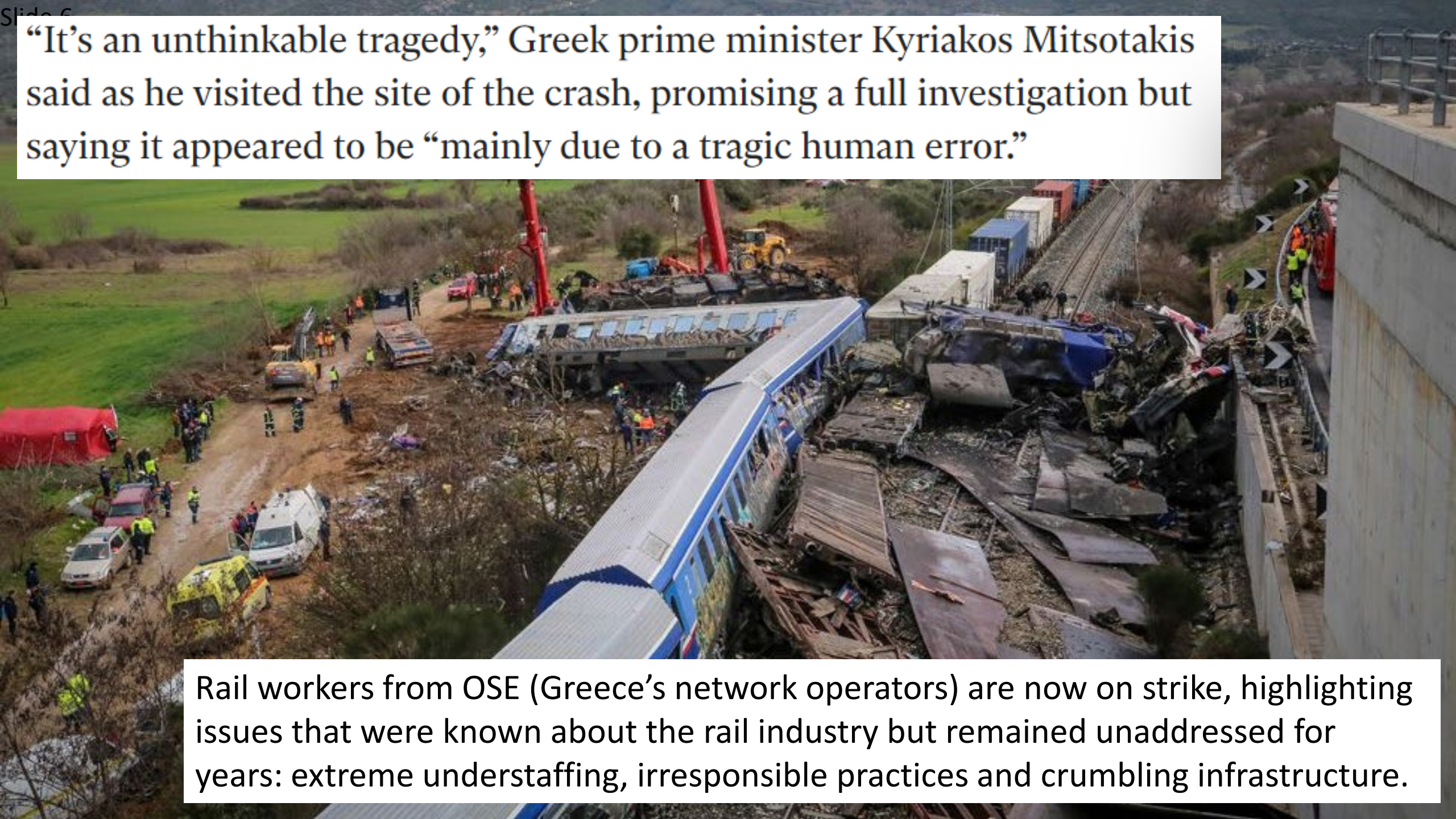
Barriers to investigating organisational factors

- Perception that organisational factors are difficult to evidence
- No clearly defined methodology
- Confusion over terminology
- Attitudes and assumptions in an organisation can be altered by an accident
- Organisational factors can often be removed in time and distance from the event

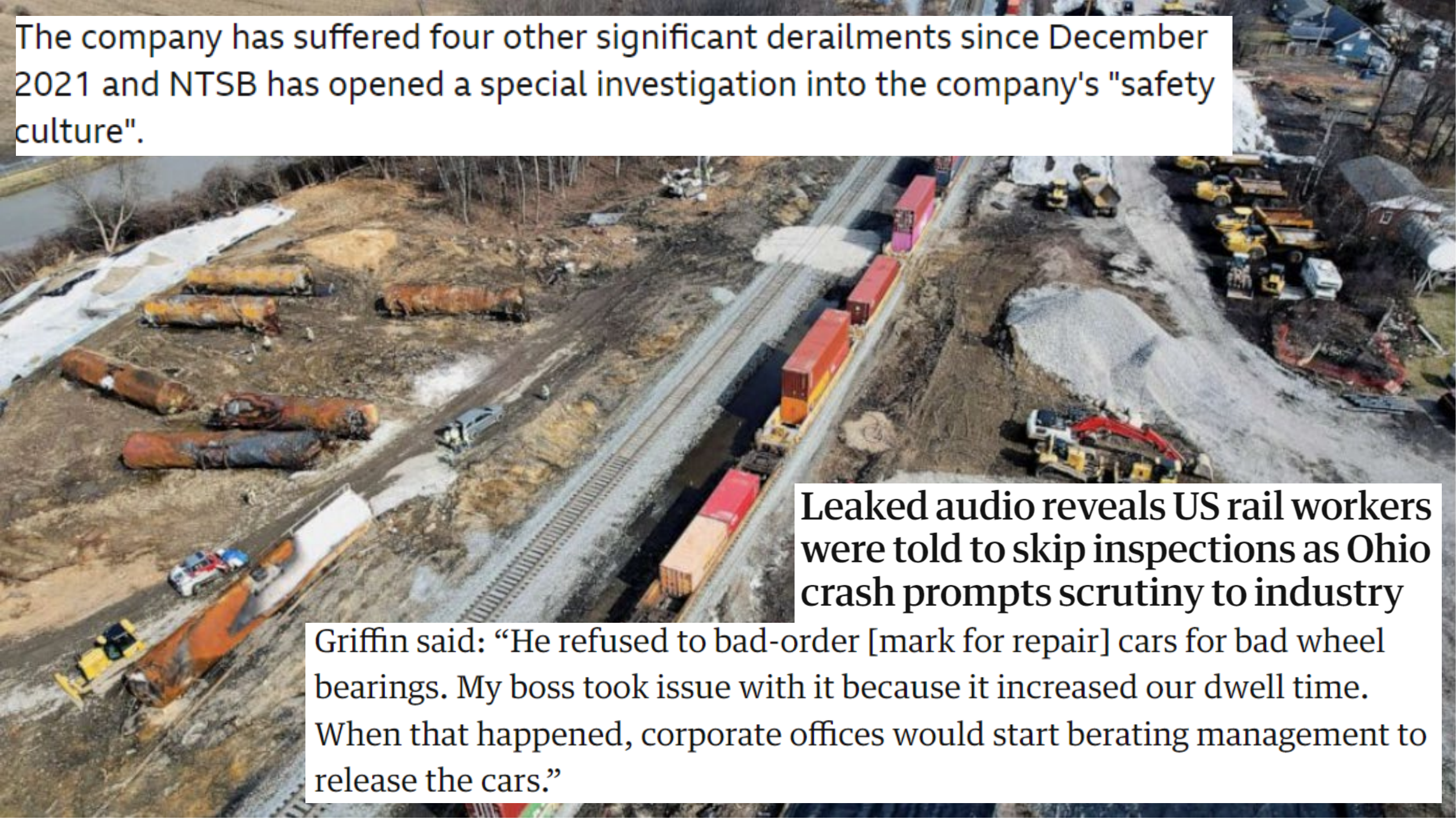
Slide 6



"It's an unthinkable tragedy," Greek prime minister Kyriakos Mitsotakis said as he visited the site of the crash, promising a full investigation but saying it appeared to be "mainly due to a tragic human error."

Rail workers from OSE (Greece's network operators) are now on strike, highlighting issues that were known about the rail industry but remained unaddressed for years: extreme understaffing, irresponsible practices and crumbling infrastructure.

The company has suffered four other significant derailments since December 2021 and NTSB has opened a special investigation into the company's "safety culture".



Leaked audio reveals US rail workers were told to skip inspections as Ohio crash prompts scrutiny to industry

Griffin said: “He refused to bad-order [mark for repair] cars for bad wheel bearings. My boss took issue with it because it increased our dwell time. When that happened, corporate offices would start berating management to release the cars.”

A method for investigating organisational factors in ten easy steps

Step 1 - Collect the initial evidence

- Initial considerations are likely to focus on the immediate aspects of ‘what happened’?
- This may touch on organisational issues although they can initially appear to be indirect and removed from immediate incident/accident

Possible sources of evidence:

- **Interviews with those involved**

Step 2 - Set the remit

- Which organisational issues are already identified for investigation?
- What are the possible sources of key evidence?

Initial causal analysis will help to establish strategic direction of investigation including consideration of organisational factors?

Step 3 - Review the assessment of risk

- Is there a formal risk management system?
- Is there a process for hazard identification? (proactive as well as reactive)
- Was the risk arising from each hazard systematically analysed?
- If there were issues, did they relate to the identification, understanding or application of control measures?

Possible sources of evidence:

- **Documented risk assessment process, risk assessments, interviews**

Step 4 - Identify the relevant control measures in the safety management system

- What relevant risk control measures were included in the SMS?
- How were they documented, understood and applied?
- Were there gaps in understanding or application?

Possible sources of evidence:

- **Relevant policies, procedures, practices, records and standards**
- **Interviews**

Step 5 - Examine the relevant part of the safety management system

- It is important to focus on the parts of the SMS that are relevant to the accident
- What were the hazards that played a role in the incident/accident?
- Were they identified in the SMS?

Possible sources of evidence:

- **Relevant policies, procedures & practices**

Step 6 - Examine the assurance process

- How does the organisation continually monitor and review the effectiveness of implemented risk controls?
- Does it have a process for change management, including the identification of new hazards and the control of risk arising?

Possible sources of evidence:

- **Company procedures, record of internal and external audits**
- **Interviews**
- **Regulatory standards**

Step 7 - Consider how the organisation learns from previous experience

- Had precursor events been identified?
- Is there an incident reporting system? Is it used?

Possible sources of evidence:

- **Reporting system, safety learning, briefing and communications**
- **Interviews, meeting minutes**

Step 8 - Consider what impact the organisational culture has on the effective management of safety

- How would you describe the culture?
  (this is not assessing it as ‘good’ or ‘bad’)
- What evidence can be found for the existence of key elements such as learning, just, informed, reporting or flexible culture?

Possible sources of evidence:

- **Documentation, reporting system**
- **Internal investigations, safety culture audits and interviews**

Step 9 - Examine the leadership in the organisation

- How aware is the leadership team of the key arrangements in the SMS?
- Does the leadership contribute to the effective implementation, review and updating of the SMS?
- Leaders create and manage culture, but cultural norms define leaders too

Possible sources of evidence:

- **Management commitment to safety, safety communication, rewards and sanctions**
- **Interviews**

Step 10 - Consider external organisational influence

- What influence or pressure (if any) is exerted on the organisations from external sources?

Possible sources of evidence:

- **Regulatory standards, regulatory oversight, government policy or legislation**
- **Supply chain, owning companies, interfaces between organisation and industry associations**

Top tips for investigating organisational factors (1)

- When performing causal analysis, it is important for investigators to look for the reasons why those involved deviated from the defined process, or why the defined process was inappropriate
- An important theme to be explored by investigators is the extent to which hazards and risks were properly understood by organisations in the period before an accident
- All findings should be based on the best evidence available, and any areas of uncertainty need to be clearly identified
- A deficiency in one area of an organisation's safety management system does not mean that the entire SMS is defective

Top tips for investigating organisational factors (2)

- Safety culture is particularly difficult to evidence. However, following the various strands of causal analysis in a methodical manner can often highlight organisational issues and those that may relate directly to safety culture
- Recommendations to address safety culture issues should be tangible and carefully targeted at specific areas of concern
- Recommendations relating to organisational factors can have far reaching effects (including unintended consequences) and should therefore always be the subject of extensive consultation

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Thank you