



# **Fukushima Nuclear Power Plant Disaster**

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# Overview

- **What Happened**
- **Current Issues**
- **Action Plan**

# What Happened at Fukushima

- Earthquake of 9.0 magnitude hit East coast of Japan
- Power Lines to Fukushima collapsed
  - Plant left without primary source of power
  - “Scram Mode”
  - Backup Generators below plant kicked in

# What Happened at Fukushima

- **15 meter tall Tsunami hit coast**
- **Power plant only had 6 meter wall**
- **Water flooded the site**
  - **Rendered the underground Diesel Generators useless**
  - **Backup power now gone**

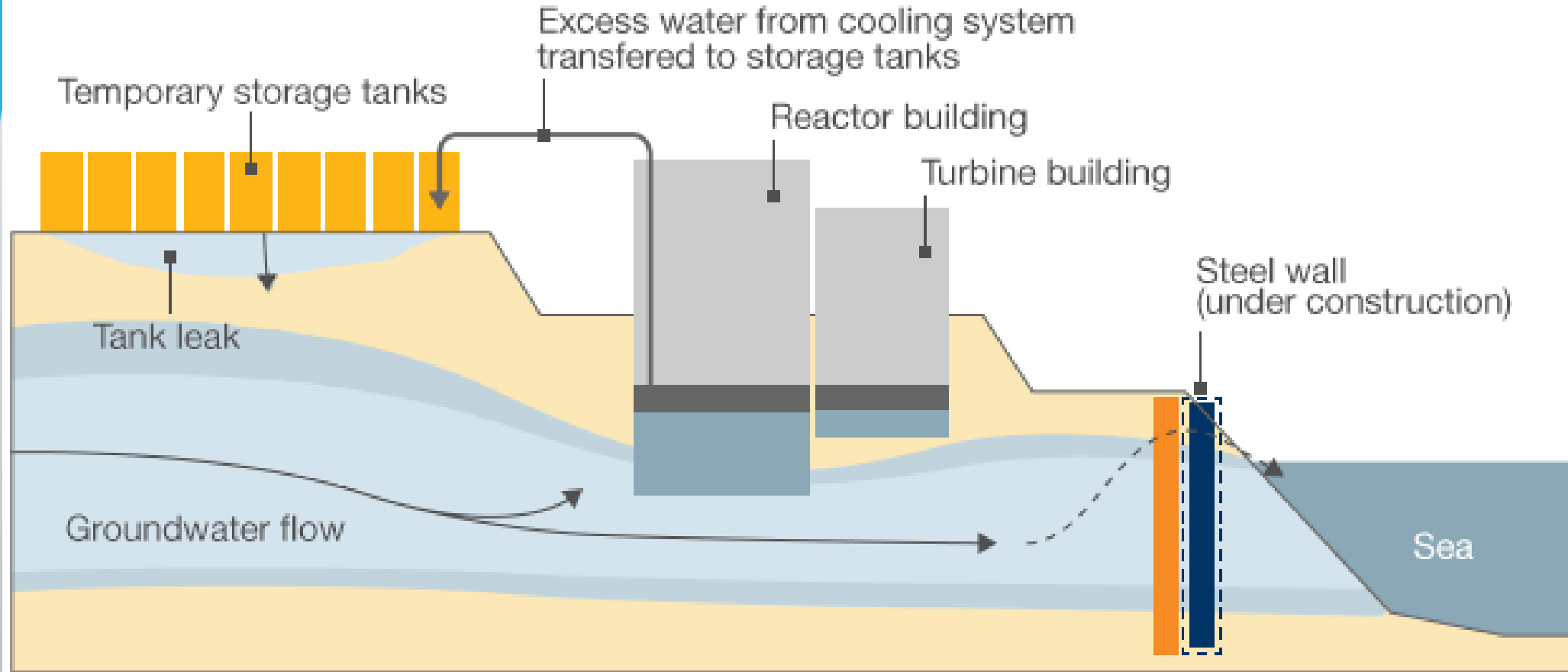
# What Happened at Fukushima

- Temperature and Pressure rose drastically within plants
- Pressure Release Valve was ordered opened – Failed
- Build-up eventually caused sites 1,2,3 to explode
  - Released radioactive air into atmosphere
  - Spilled contaminated water into ocean

# Current Issues

- **Cesium-137 used as material**
  - Half life of 30 years
  - Drinking water declared unsafe
  - Cannot farm, soil exposure to radioactivity
- **Blackouts still present in surrounding area**
  - 3 of 6 reactors active
  - No alternative power solution for the area

# Groundwater contamination at Fukushima



Source: Reuters

Figure 1 – Groundwater contamination diagram. [1]



### How the 'ice wall' could work

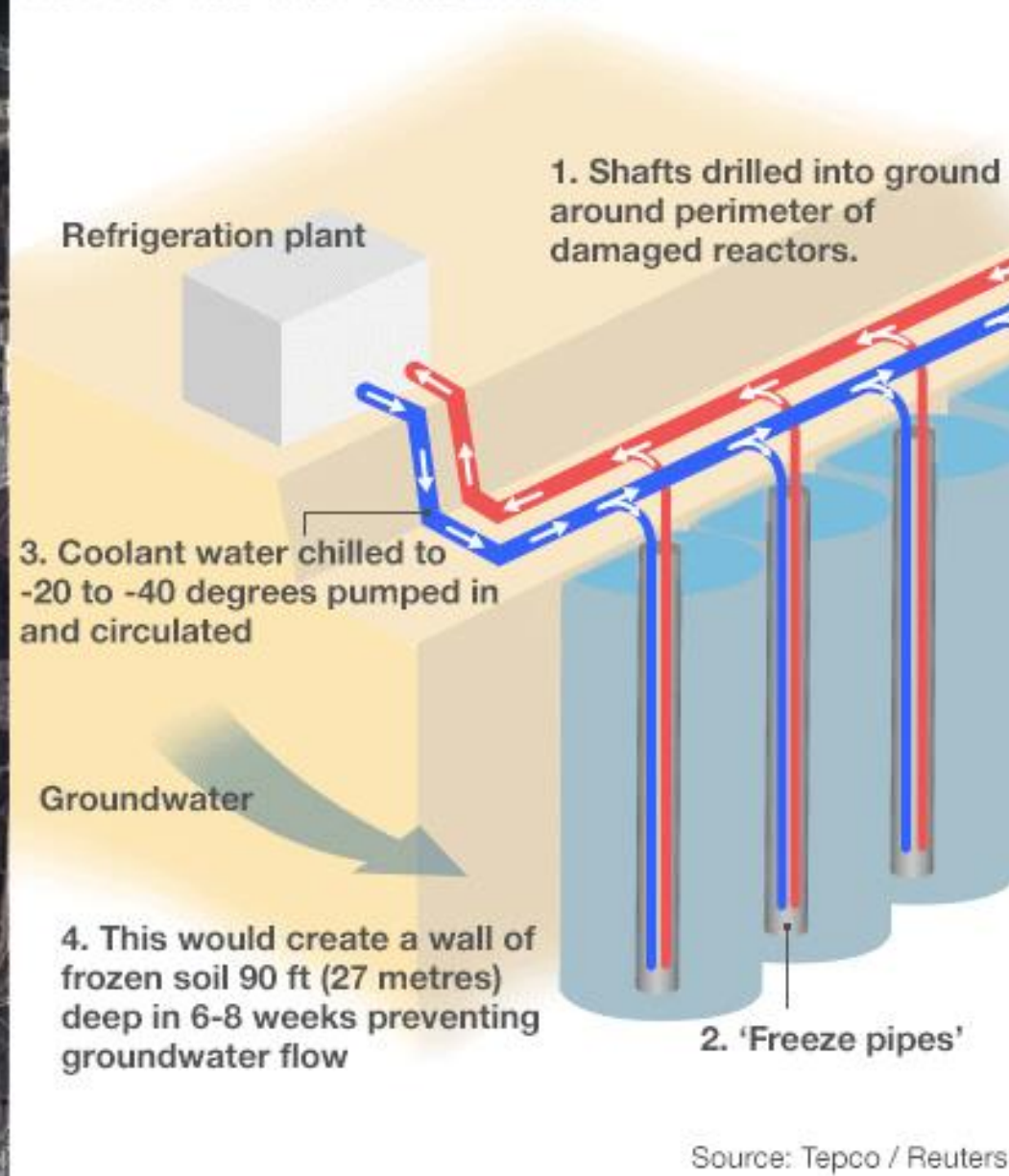


Figure 2 – The ice wall. [1]



# Current Issues

- **Stop leakage from storage tanks to ground water**
- **Permanent steel wall under construction**
- **Ice Wall solution, quicker, temporary and risky**

# Action Plan

- **Prepare for disaster**
  - Meet all safety regulations
  - Make QRF
- **3 Teams**
  - Safety and containment
  - Restore and rebuild
  - Medical and communication

# Conclusion

- **What Happened**
- **Current Issues**
- **Action Plan**

# References

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# Any Questions?