

Fukushima Nuclear Disaster

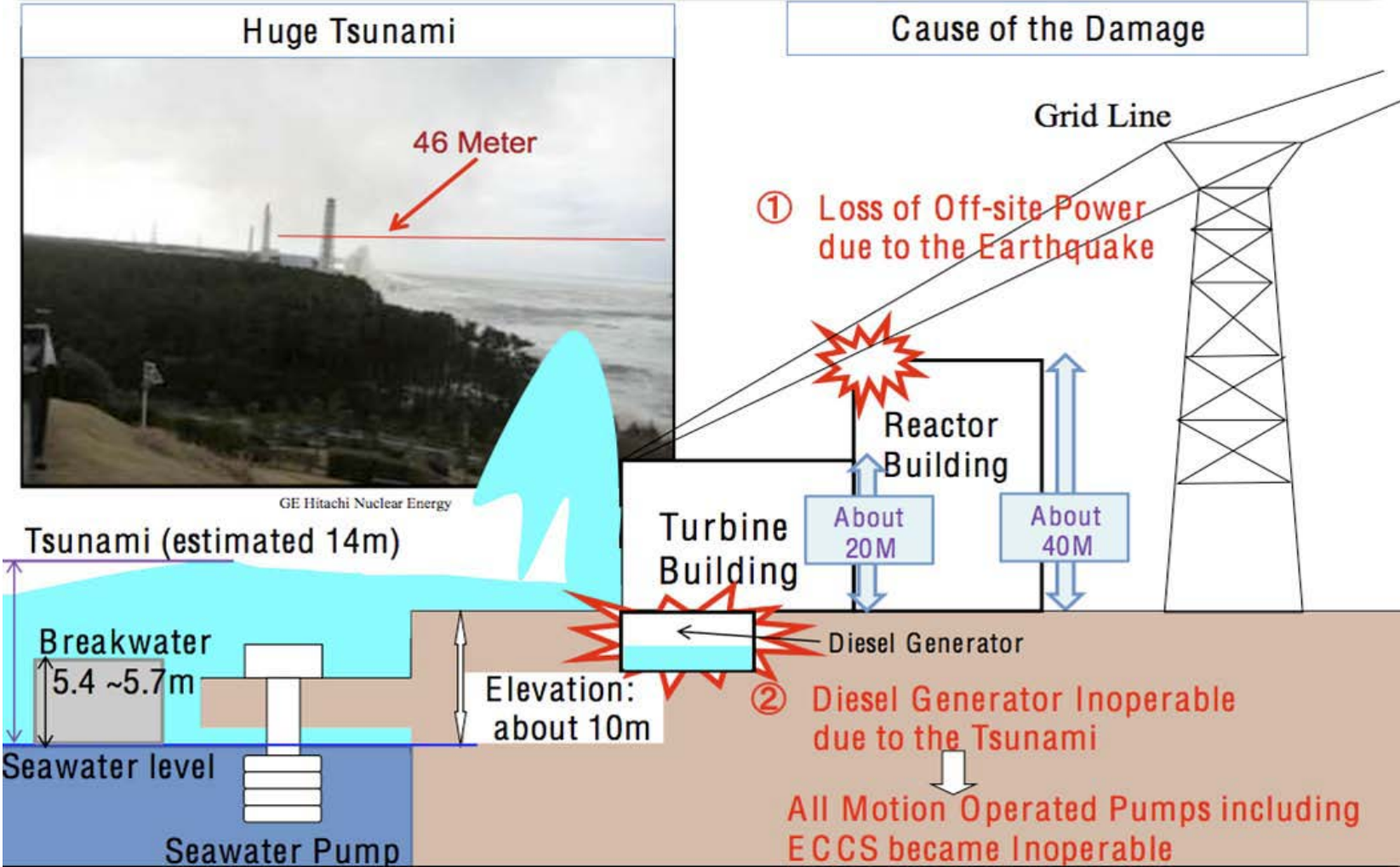
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What happened?

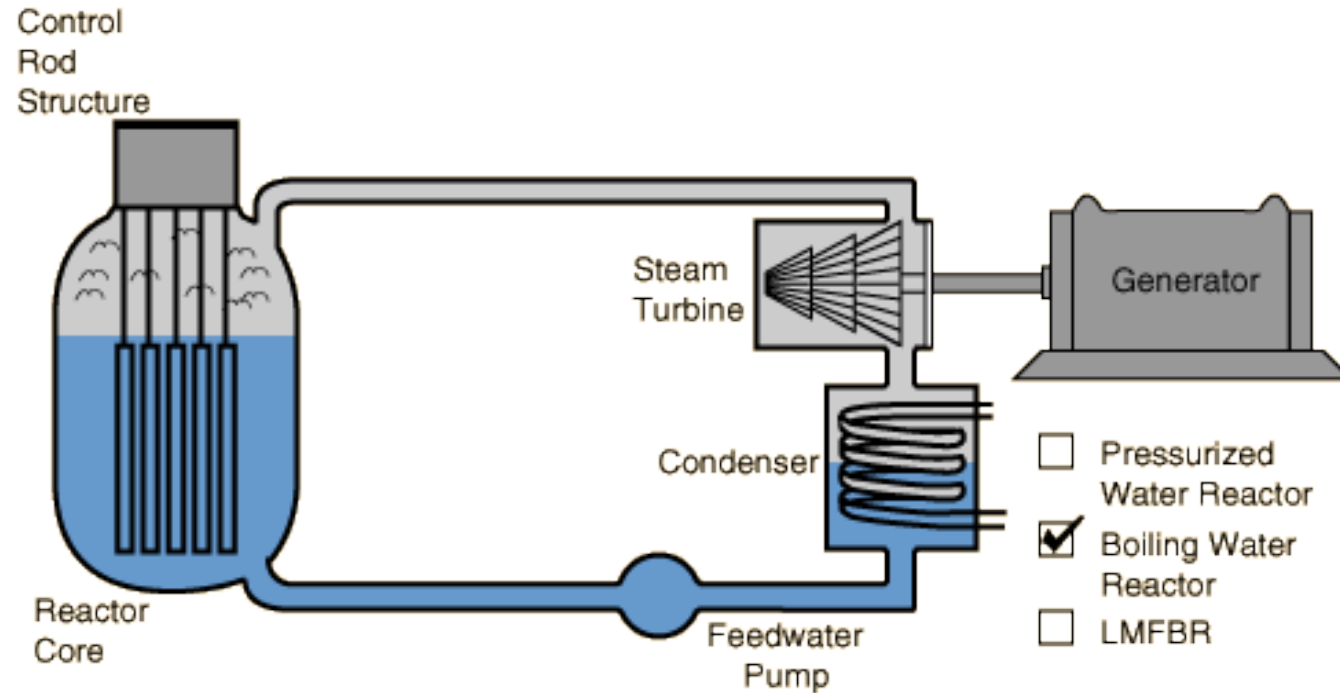


Why it happened and how we prevent

1. Technical weakness
2. Old equipment
3. Bad location

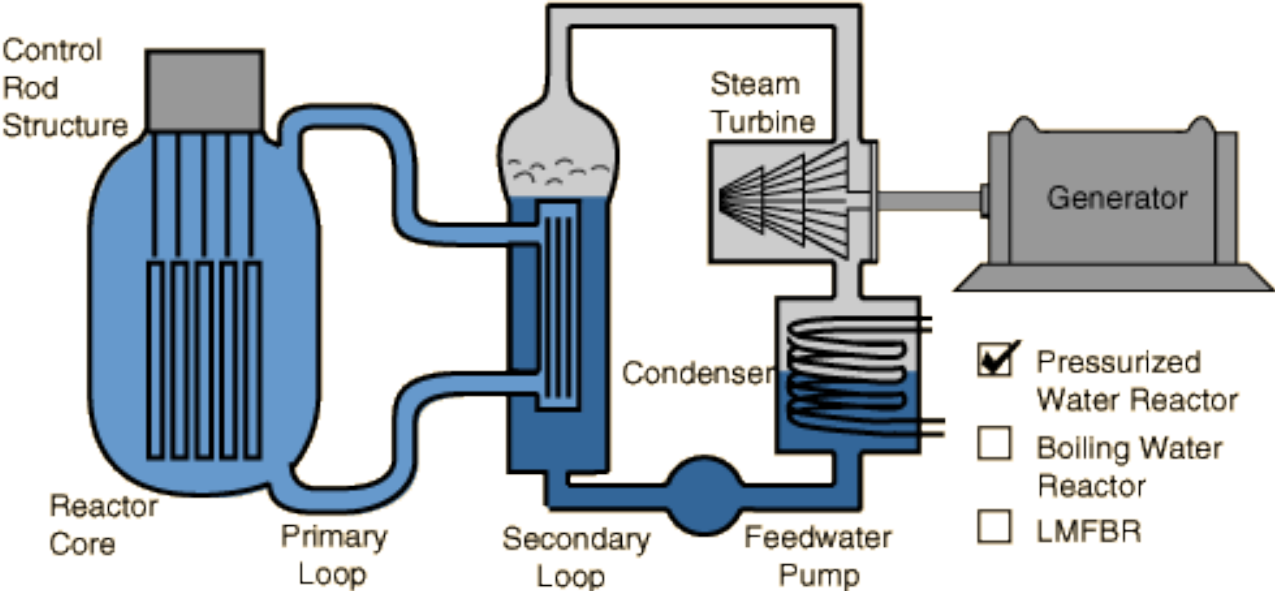
Technical weakness

Boiling-Water Reactor



How we prevent

Pressurized Water Reactor



Technical weakness

Nuclear
safety shell

Fukushima, Japan



How we prevent

Three Mile Island, USA

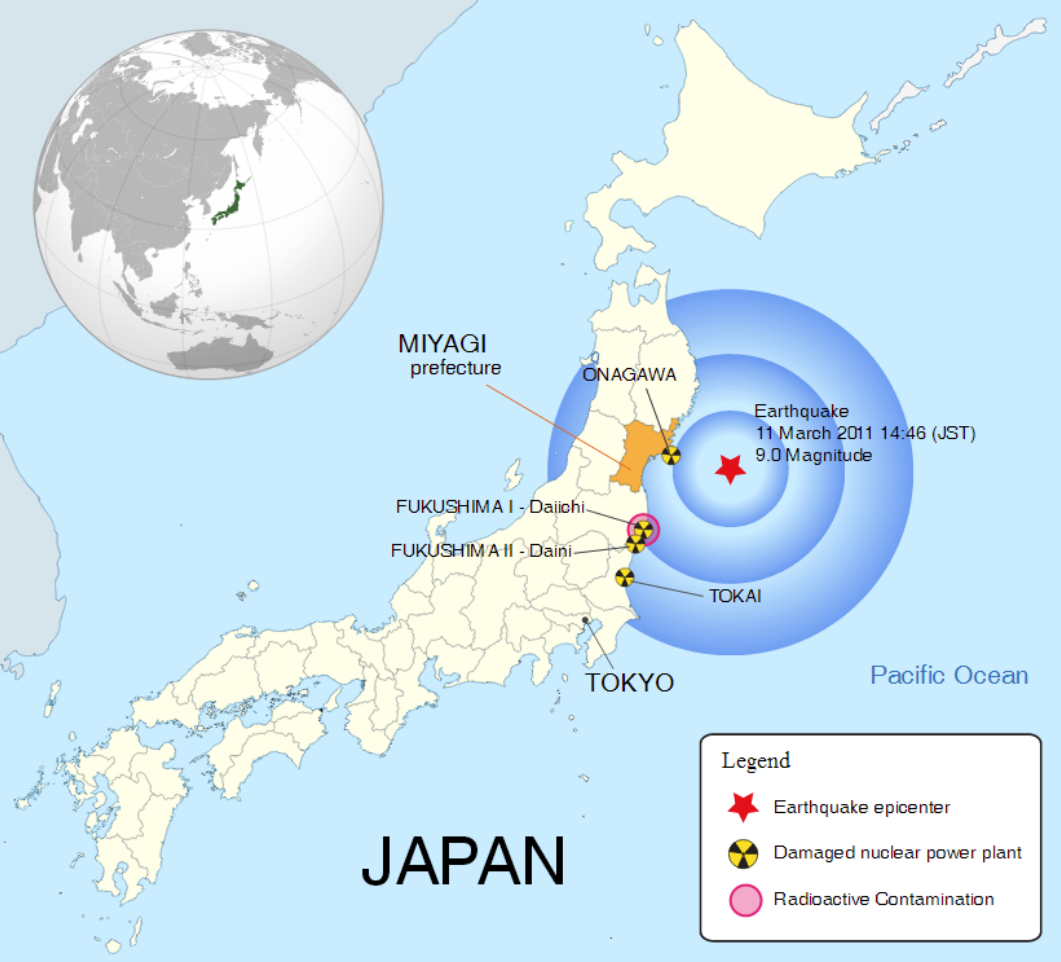


Nuclear
safety shell

Old equipment

- The 1st Reactor has been used for 40 years.
- Equipment need to be replaced.
- Plan to use another 20 years.

Bad location



Conclusion

- Poor Location
 - Our group had to believe that there were more appropriate sites for the facilities.
- Out Dated Design
 - Because leadership was unwilling to update facilities, the structures demise was inevitable.
- Possible Prevention Scenarios
 - Relocation, Note warnings and act on them

References

- <http://www.nrc.gov/reactors/bwrs.html>
- <http://www.nrc.gov/reactors/pwrs.html>
- <http://www.world-nuclear.org/info/Safety-and-Security/Safety-of-Plants/Fukushima-Accident-2011/#.UjUBoT-DI8E>
- <http://hyperphysics.phy-astr.gsu.edu/hbase/nucene/reactor.html>
- <http://www.theatlantic.com/international/archive/2011/03/a-japanese-three-mile-island/72403/>
- <http://www.mnn.com/earth-matters/energy/stories/japan-grapples-with-nuclear-crisis>
- <http://www.decodedscience.com/fukushima-update-xenon-detected-after-nuclear-power-plant-disaster/5057>

Questions or comments ?