Fukushima Disaster

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Introduction

- Disaster
- Precautionary Solutions
- Current Issues
- Solutions
- United States

Initial Disaster

- March 11th 2011, Earthquake occurs.
- Back-up generators turn on.
- An hour later Tsunami strikes main plant.
- Generators Fail.
- Reactors Overheat.



Precautionary Solutions

- Use more automated cooling systems.
 -Fans, filters, generators.
- Build more generators to cool reactors.
- Increase the height of seawalls.

Current Solutions To Problem

- Install filters and detectors throughout the Nuclear Plant.
- Adapt to more safety issues.
- Plan ahead of time in order to prevent disaster.
- Build stronger walls to protect against Tsunami's.

Current Issues

Cesium – 137 is main contaminant.

- -Very mobile isotope
- -Highly water soluble
- Has contaminated the local vegetation, soil, and plant itself.
- Contaminated water leaking from reactor and storage tanks to groundwater.

Ground Water Contamination

Groundwater contamination at Fukushima



Source: Reuters

Solutions to Current Issues

- Decontaminate soil, vegetation, and plant.
 - -Using chemicals to leach the radioactive elements out and capture in filter
- Prevent contaminated groundwater from reaching ocean.

-Metal wall and frozen wall between plant and ocean

Could This Happen in the US?

- 23 Mark 1 nuclear power plants in US.
- Mark 1 boiling water reactor: under-engineered containment system.
- Japan has more seismic activity than US.

Locations of Nuclear Power Plants



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Possible, but not Probable

- Fair much better than Japan.
- More strict regulations.
- Quick response plan.
- Cooling system redundancies.

Conclusions

- Catastrophic Disaster.
- Preliminary safety.
- There are still issues.
- Solutions to issues.
- How the United States would cope with this disaster.

Works Cited

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Questions?