

防災学術連携体の設立： 専門家の進んだ現代社会に 不可欠な学術連携

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原子力発電所の耐震指針

September 19, 2006

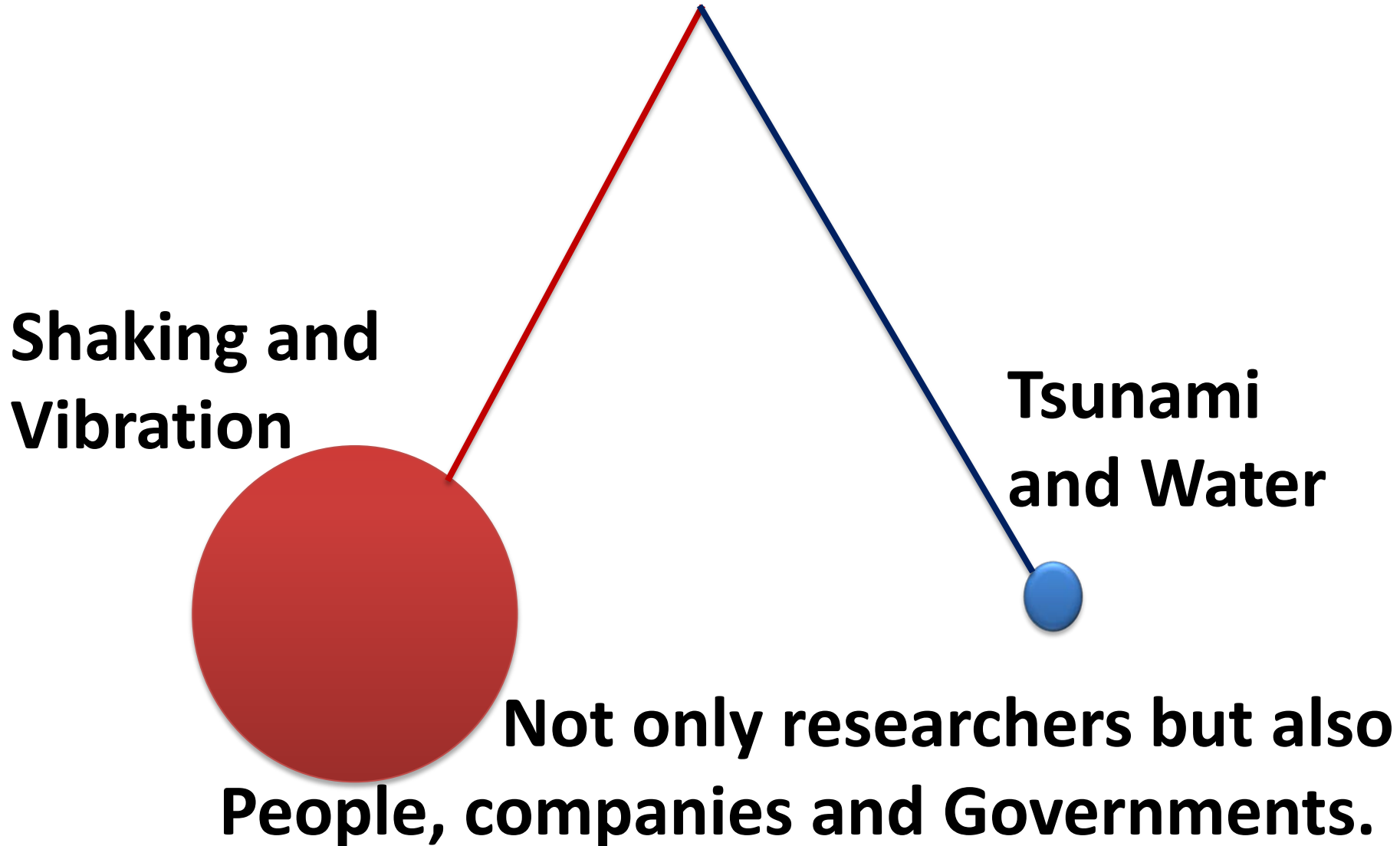
1. Introduction
2. Scope of Application
3. Basic Policy
4. Classification of Importance in Seismic Design
5. Determination of Design Basis Earthquake Ground Motion
6. Principle of Seismic Design
7. Load Combinations and Allowable Limits
8. Consideration of the Accompanying Events of Earthquake

8. Consideration of the accompanying events of earthquake

(1) Safety functions of Facilities shall not be significantly affected by **the collapses of the inclined planes around Facilities** which could be postulated in the seismic events.

(2) Safety functions of Facilities shall not be significantly affected by the **tsunami** which could be postulated appropriately to attack but very scarcely in the operational period of Facilities.

Pendulum of worries and concerns



Severe tsunami attacks to a hospital that was retrofitted by steel braces



Effects of tsunami on NPPs

- Almost all researchers and engineers in earthquake engineering, including me, have traditionally focused their attention to the vibration aspects of earthquakes;
- Very few people had focused on the effects of tsunami on NPPs.



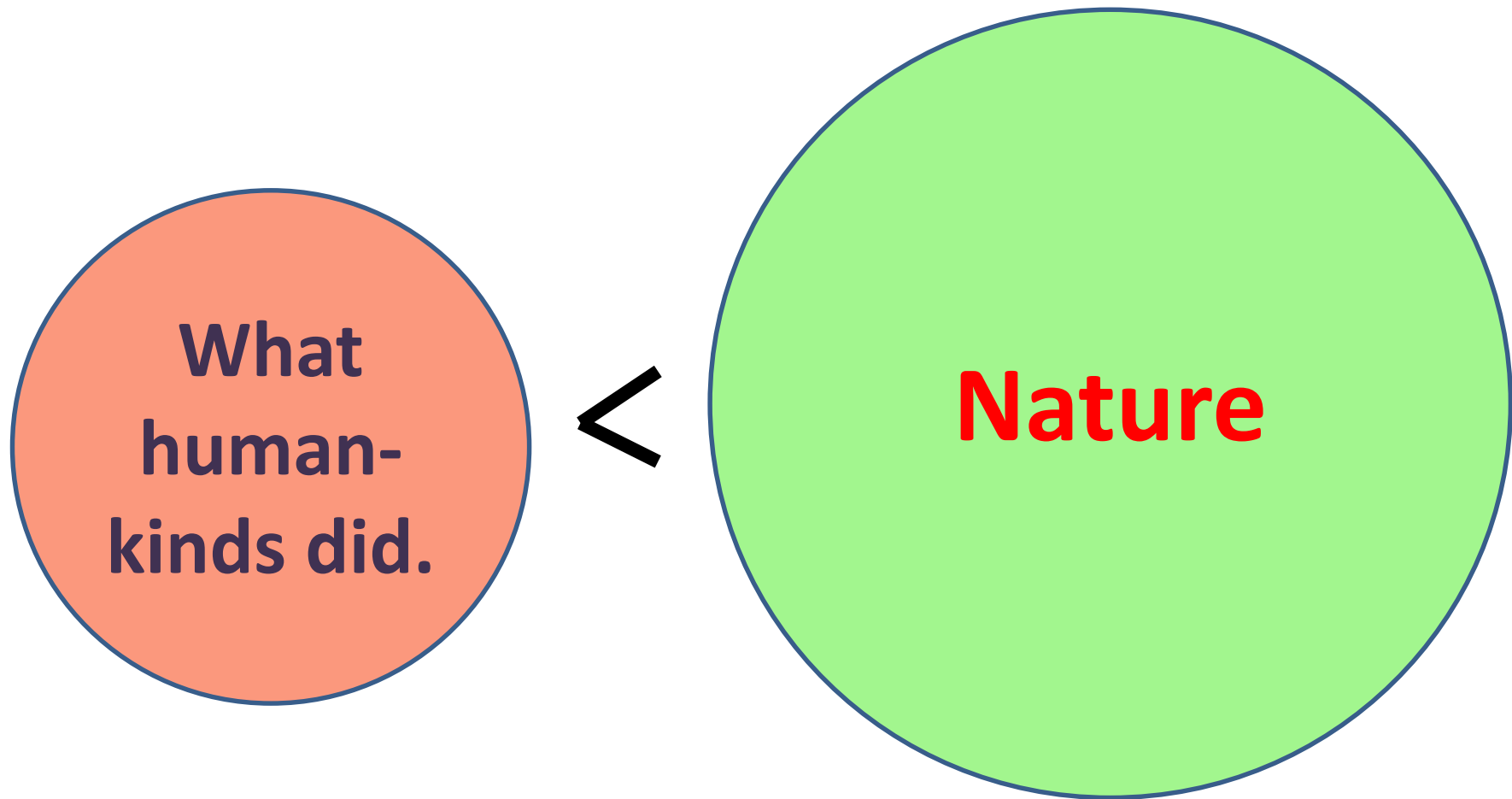
What we have to reconsider

- Before March 11, 2011, we had not any experience that the tsunami hit nuclear power plant at all.
- Japanese seismic design guide wrote only one word of 'tsunami' at the final short sentence.
- Humankind is always optimist.
- We cannot take into consideration before an accident that we have not experienced.

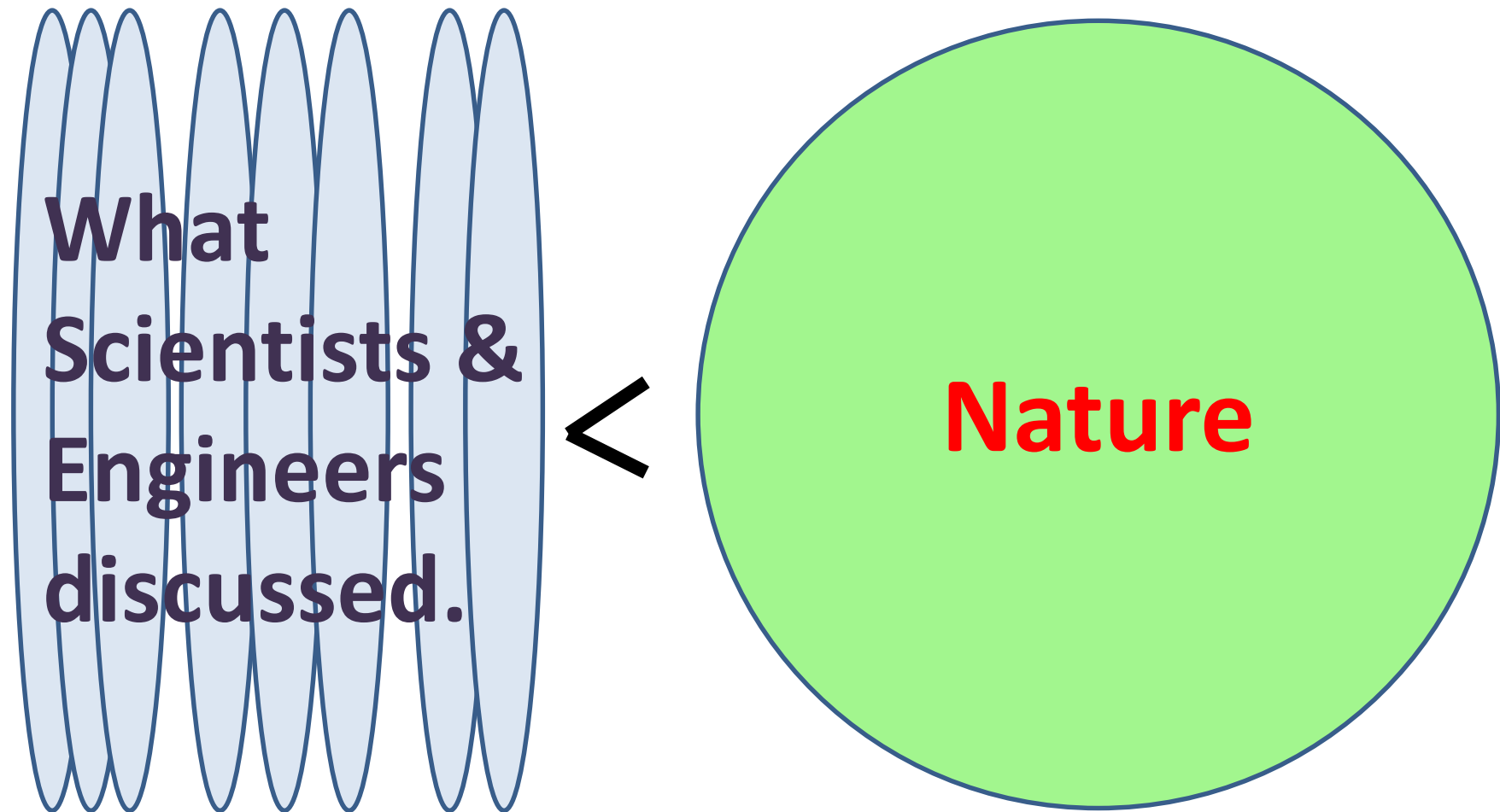
New Regulatory Requirements For Light Water Nuclear Power Plants (Earthquakes and Tsunamis)

1. Basic Design Policy for Earthquakes and Tsunamis
2. Classification of Importance of Facilities
3. Formulation of Standard Seismic Motion
4. Seismic Design Policy
5. Considerations Regarding Ground Stability
6. Formulation of Design basis tsunami
7. Design Policy against Tsunami
8. Design Considerations Regarding the Stability of Surrounding Slope

Why natural disaster cannot reduce



Why natural disaster cannot reduce





Shortstop

Third
baseman

ARRC Gold Star Elevator Operation

ADA lifts have two power sources, 120 Volt AC from the main service panel and 12 Volt DC from the converter Panel. Make sure both of these circuit breakers are on.



**Even tiny lifts
system in the
ALASKA train
for
handicapped
person has two
power sources.**

設計・決断の多層化/
関係者の総合力が発揮されない

