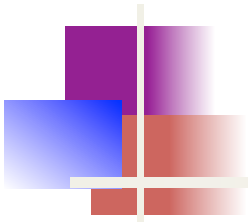
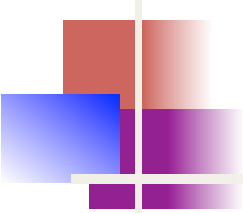


The Fukushima Daiichi Nuclear Power Plant Accident Could Have Been Avoided



Arnie Gundersen, Chief Engineer
Fairewinds Associates, Inc
Burlington, Vermont, USA



Introduction

Thank you for taking time today to listen to my presentation. I look forward to your questions.

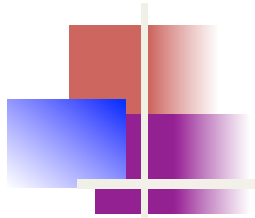
I would especially like to thank Shueisha for sponsoring my speaking tour and publishing my viewpoint about the nuclear power plant accident at Fukushima Daiichi.

I hold a Bachelor and Master Degree in Nuclear Engineering from RPI in New York. I am also a licensed nuclear power plant operator and hold a nuclear safety patent.



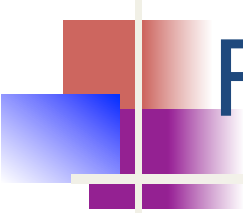
Appreciation

- The Staff at both Fukushima Daiichi and Fukushima Daini are heroes, not just to Japan, but to the world
- Their bravery saved Japan from massive evacuations
- I wish to express my profound respect for their selfless effort during the first days and weeks following the accident at Fukushima Daiichi



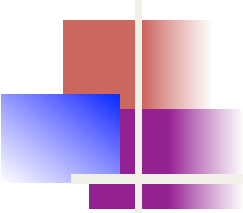
Long History of Danger

- GE Mark 1 BWR problems are well known
- 1972 NRC Memos said containment too small
- Back-fitted with straps to hold down torus
- Venting added in 1990 without licensing review
- My conversation with my wife 3 weeks before accident
- Seismic/tsunami problems identified decades earlier
- TEPCO/ NISA scandals lead to institutional "echo chamber effect"
- This problem is not unique to Japan



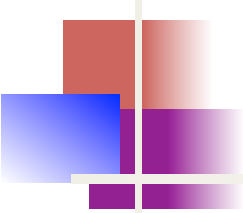
Fukushima Daiichi – Lessons From The Accident's First Week

- Inadequate Design Basis
- Seismic Problems
- Loss of Offsite Power (LOOP)
- Loss of Ultimate Heat Sink (LoUHS)
- Inadequate Batteries
- Inadequate Containment
- Inadequate Venting



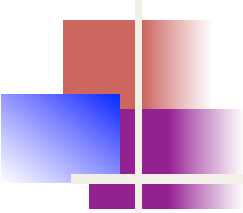
The Evacuation

- Severity: Level 7 by the second day of the accident – not admitted to by TEPCO, regulators or government
- TEPCO offsite management more concerned with protecting financial investment than the people near the plant or in the pathway of the radioactive plume
- Inadequate communication between the Japanese government, regulators, and TEPCO
- Notified US government of severity, but did not notify Japanese people and evacuate women and children ASAP
- Insufficient Evacuation Radius



Long-term clean-up and health risks

- RECOGNIZE THE SEVERITY OF THE PROBLEM
- \$250,000,000,000 US – \$250 Billion US =
19,000,000,000,000 JPY – 19 Trillion Yen
- During the next 20 years there will be 1,000,000 additional cancers plus many other health problems, like Chernobyl heart from cesium
- Dispersing Contamination from Incineration will spread radiation across Japan making the problem worse and lengthen clean-up efforts by decades
- Stop protecting TEPCO's financial interest
- Protect people first



Japan's Future – Has Great Promise

- Japan has the technical talent to become the world leader in the creation of a new paradigm for renewable energy
- Smart Grids
- V2G Technology
- Renewable Generation
- Central Station Power is an outdated 20th century concept
- Distributed Generation is 21st century

Arnie Gundersen, Chief Engineer, MSNE
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Arnie Gundersen has 40-years of nuclear power engineering experience. He is a former nuclear industry senior vice president who earned his Bachelor and Master Degrees in nuclear engineering from RPI, holds a nuclear safety patent, and was a licensed reactor operator. During his career, Mr. Gundersen managed and coordinated projects at 70-nuclear power plants in the US.

Currently, Mr. Gundersen is the chief engineer and an expert witness for Fairewinds Associates, a paralegal services and expert witness firm founded in 2003 by its president Maggie Gundersen. He also speaks on television, radio, and at public meetings regarding the lack of adherence around the world to important nuclear safety regulations. Mr. Gundersen also serves as a director with the non-profit organization Fairewinds Energy Education Corp.