

An aerial photograph of a large industrial complex, likely a nuclear power plant, situated on a coastal peninsula. The facility features several large, rectangular buildings, tall cooling towers, and a complex network of pipes and structures. The plant is bordered by a concrete wall, and the surrounding area includes some greenery and a beach area with waves crashing against the shore. The sky is clear and blue.

February 19, 2024

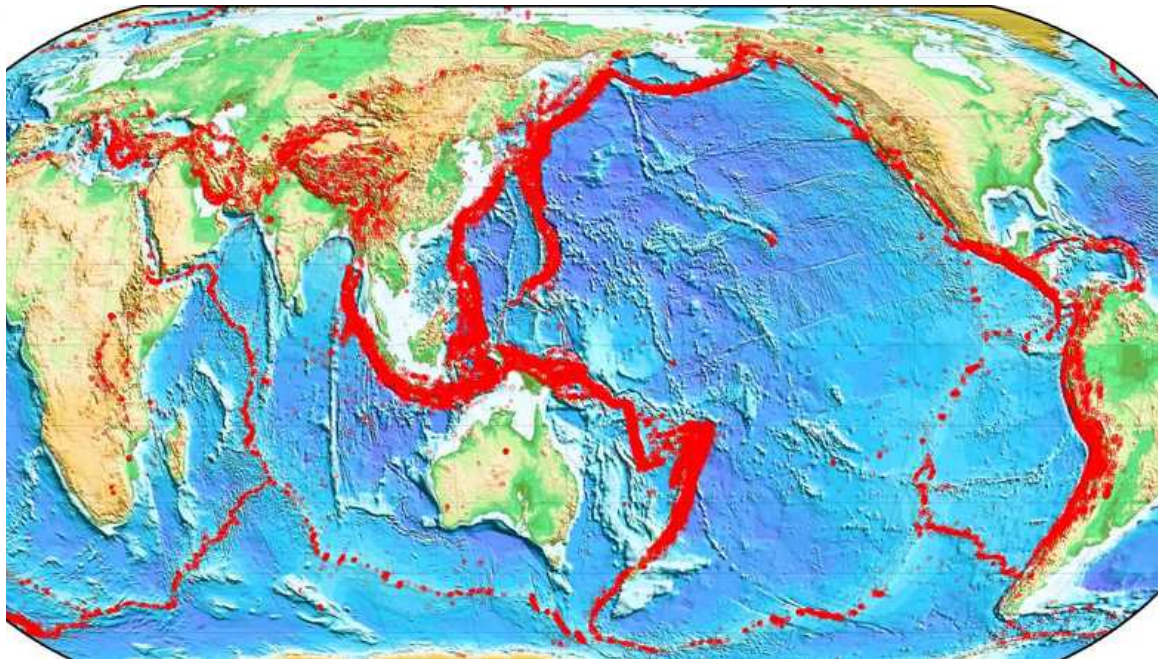
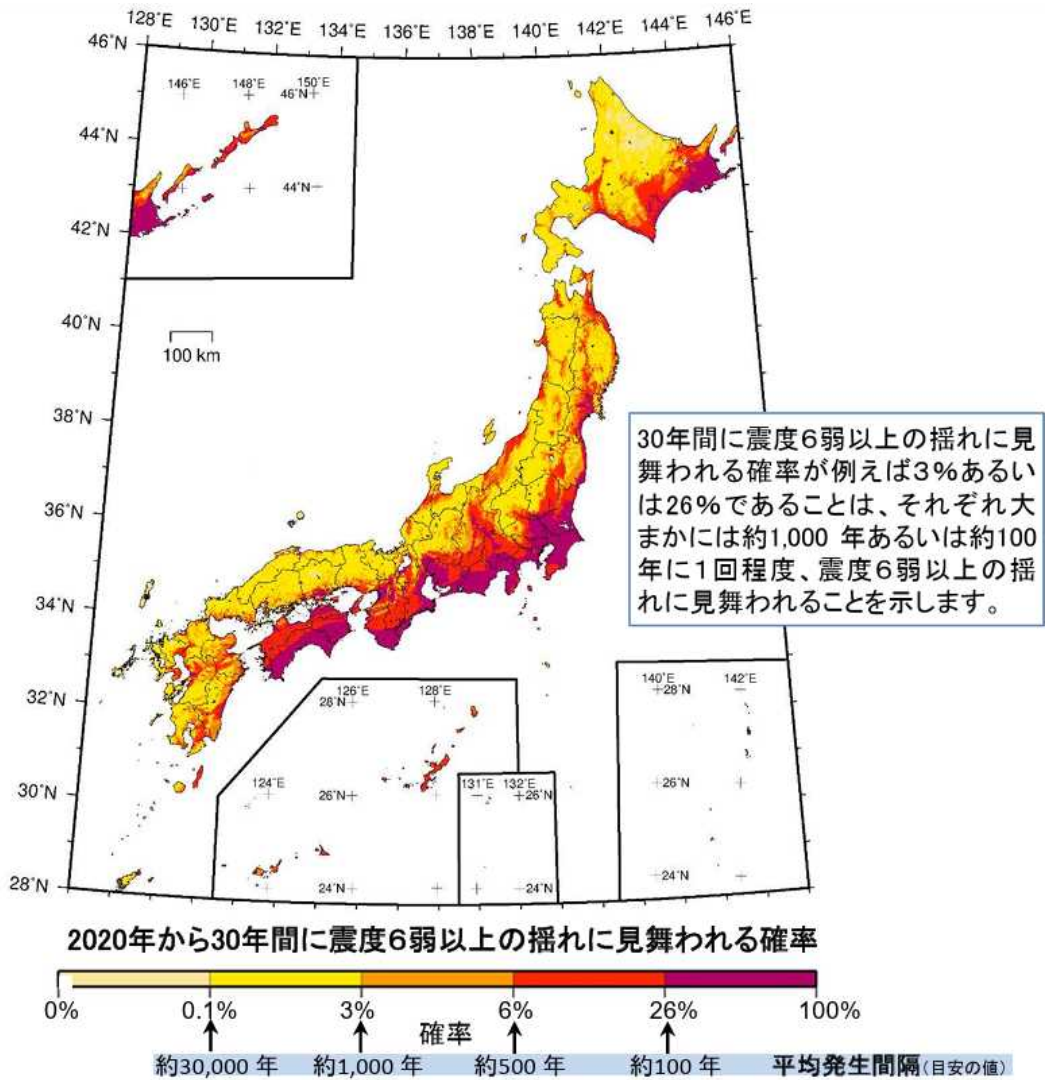
Press Conference:

On Shaky Ground: Japan's Nuclear Power Policy and the Noto Peninsula

<https://www.chunichi.co.jp/article/239836>
(Chunichi Shimbun)

Citizens' Commission on Nuclear Energy (CCNE)
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“Regardless of ranking, in any place in Japan, there may be strong shaking due to earthquakes”

Headquarters for Earthquake Research Promotion
 Report: 'National Seismic Hazard Maps for Japan (2020)
https://www.jishin.go.jp/main/chousa/20_yosokuchizu/yosokuchizu2020_mm.pdf

Probability of seismic intensity ≥ 6 Lower, occurring in 2020-2050

Earthquakes exceeding the design basis seismic motion

Nuclear regulators have been rather slow to respond to earthquake danger to NPPs. Power companies were asked to reassess the design basis seismic motions for NPPs after regulatory authority revised its guideline in 2006.

Still, earthquakes exceeding the upgraded design basis occur repeatedly.

MONTH YEAR	EARTHQUAKE	Nuclear Power Plants (NPP)
August 2005	Miyagi ken Offshore Earthquake (M7.2)	Onagawa
March 2007	Noto Peninsula Earthquake (M6.9)	Shika
July 2007	Niigata ken Chuetsu Offshore Earthquake (M6.8)	Kashiwazaki-Kariwa
March 2011	Great East Japan Earthquake (M9.0)	Onagawa, Fukushima Daiichi, Fukushima Daini, Tokai Daini
January 2024	Noto Peninsula Earthquake (M7.6)	Shika

※ The 2016 Kumamoto Earthquake had an unexpected sequence of M6.5 and M7.3 shocks in the region adjacent to Sendai NPP.

Optimistic underestimation continued even after the 2011 Fukushima Disaster

- Some earthquake countermeasures have been tightened, such as forced decommissioning once an active fault is confirmed under the reactor/turbine buildings area. But measures are limited to the extent so as to allow operation of most of the existing reactors.
- ✓ Kunihiro Shimazaki, seismologist and former Acting Chairman of the Nuclear Regulation Authority (NRA), pointed out that “the method of calculating standard ground motion that power companies use could lead to underestimated figures and is inappropriate.” (<https://mainichi.jp/english/articles/20160725/p2a/00m/0na/006000c>)
- ✓ Katsuhiko Ishibashi, seismologist and professor emeritus at Kobe University: "Earthquake motions set without specifying the epicenter are arbitrarily set low as approx. M6.6. (Noto Peninsula earthquake was M7.6)
- Moreover, is it even possible to design NPPs based on the largest scale of natural disasters?
- ✓ The Noto Peninsula earthquake caused ground uplift along the coast, spanning about 85 kilometers and with 200 meters of new coastline exposed. 150 km of the linkage of active faults on the sea floor were “out of scope.”

Problematic change of nuclear regulation after the Fukushima disaster

- The premise has changed from "nuclear accidents will never happen" (safety myth) to "nuclear accidents can happen."
- The "Nuclear Reactor Siting Requirements", the highest-order regulations of NPP siting to ensure public safety, were repealed.
- ✓ Shunichi Tanaka, a former chair of the NRA, said: "An order of such radioactive release as in Fukushima would no longer be compatible with the site requirements."
(https://www.ccnejapan.com/20140412_CCNE.pdf, p145)

No mechanism to ensure viability of local disaster management and evacuation plans

- Local governments are responsible for formulating the local disaster management plan and evacuation plan based on the "Nuclear Emergency Response Guideline" issued by the NRA.
- However, the NRA has no uniform review criteria. Effectiveness and feasibility of the disaster management and evacuation plans are not legal requirements when the NRA reviews for the construction or operation of nuclear power plants.
- The Cabinet's "Nuclear Emergency Preparedness Council" approves the plans prior to restarting NPPs, but this is just a formality and not a professional verification.
- ✓ In the US, off-site emergency evacuation plans are prepared by state and local governments and reviewed by the Federal Emergency Management Agency (FEMA); the NRC then checks consistency with on-site emergency measures and issues permission for operation.

Failing to learn lessons from the Fukushima Daiichi Nuclear Power Plant disaster

- Mito District Court ordered the suspension of Tokai Daini NPP, just 110 km northeast of Tokyo (March, 2021)

Judge ruled that *"it is far from the preparedness necessary, and we must say the emergency response is extremely inadequate."*

- Chair of NRA, Shinsuke Yamanaka:

"The current guidelines and regional disaster management plans developed by local governments can respond to the situation." (January 17, 2024)

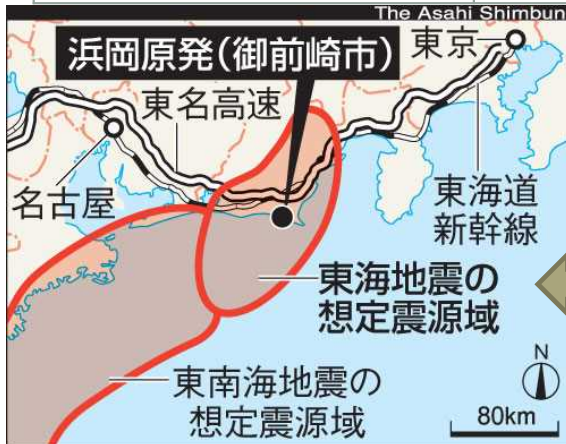
"Responding to natural disasters is out of our scope." (February 14, 2024)

- Prime Minister, Fumio Kishida;

"If the NRA finds that the system complies with the new regulatory standards, it will not change its policy for resuming operation with local understanding."

Is it ever possible to respond to 'complex disasters'?

NPP	
Ikata (Ehime)	Isolated at the tip of Cape Sata Peninsula. Evacuation by boat or plane depends on roads and weather conditions. The port may not function.
Hamaoka (Shizuoka)	Located in the assumed epicenter area of the Nankai Trough Megaquake. How many coaches to evacuate 800,000 people from a 30km radius? What about drivers' exposure?
Wakasa Bay NPPs (Fukui)	The road over the mountains is narrow, and the only road is along the coast. Evacuation must go through the vicinity of the NPPs one after another.
Tomari, (Hokkaido) Kashiwazaki-kariwa (Niigata)	Evacuation in heavy snowfall?



Median Tectonic Line →
← Hypocenter of Tokai Earthquake



https://www.asahi.com/photonews/gallery/infographics4/0514_hamaoka.html
<https://digital.asahi.com/articles/photo/AS20200118000323.html>

<https://www.asahi.com/articles/ASR1J7KC1R1FUOHB001.html>