

Ukraine and Nuclear Threats

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Nuclear Crisis and Peaceful Use of Nuclear Energy: Implications of the Rokkasho Reprocessing Plant Operation

Symposium to Commemorate the Launch of the Nuclear Fuel Cycle Special Site of the Citizens' Nuclear Information Center

Tokyo, 28 April 2022

Outline

Does nuclear power make non-nuclear war more dangerous?

Should Ukraine have kept the nuclear weapons it inherited?

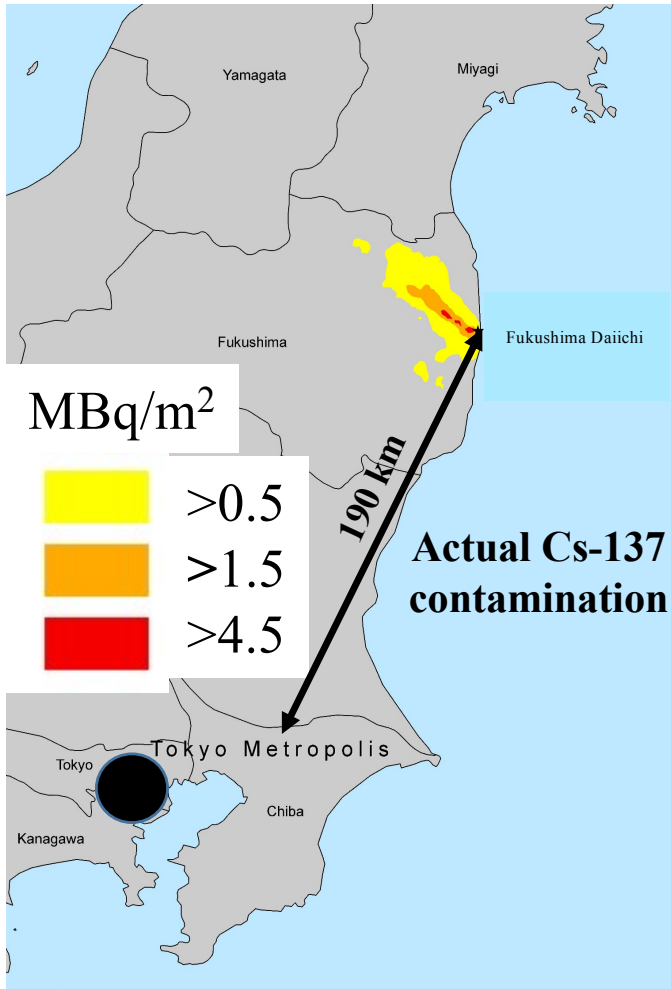
Should Japan keep its nuclear weapon option?

Should Japan operate Rokkasho?

Could we get rid of both nuclear weapons and plutonium?

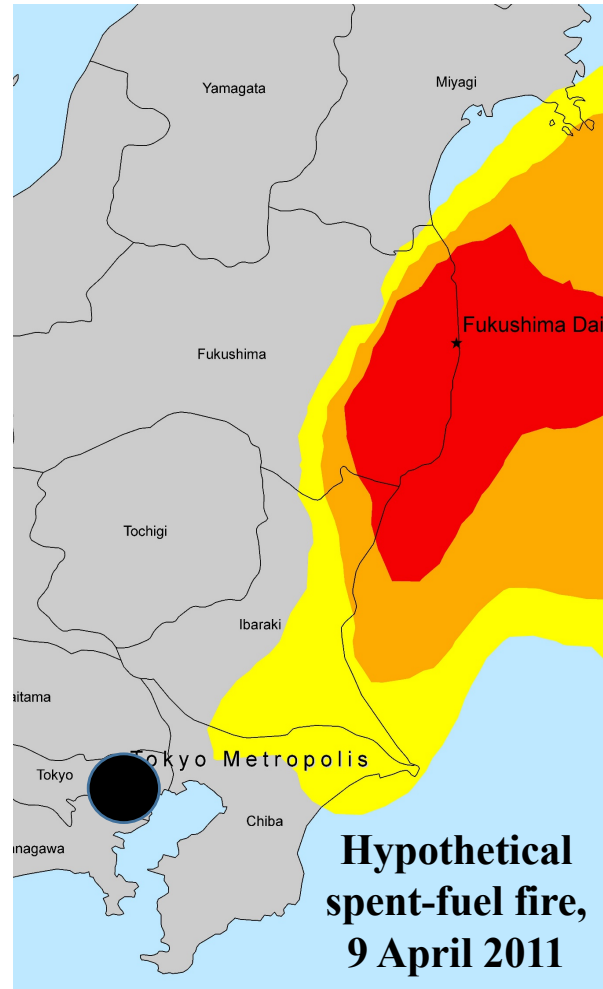
Does nuclear power make war more dangerous?

Yes! A war could cause loss of cooling for a spent fuel pool or radioactive waste tank.

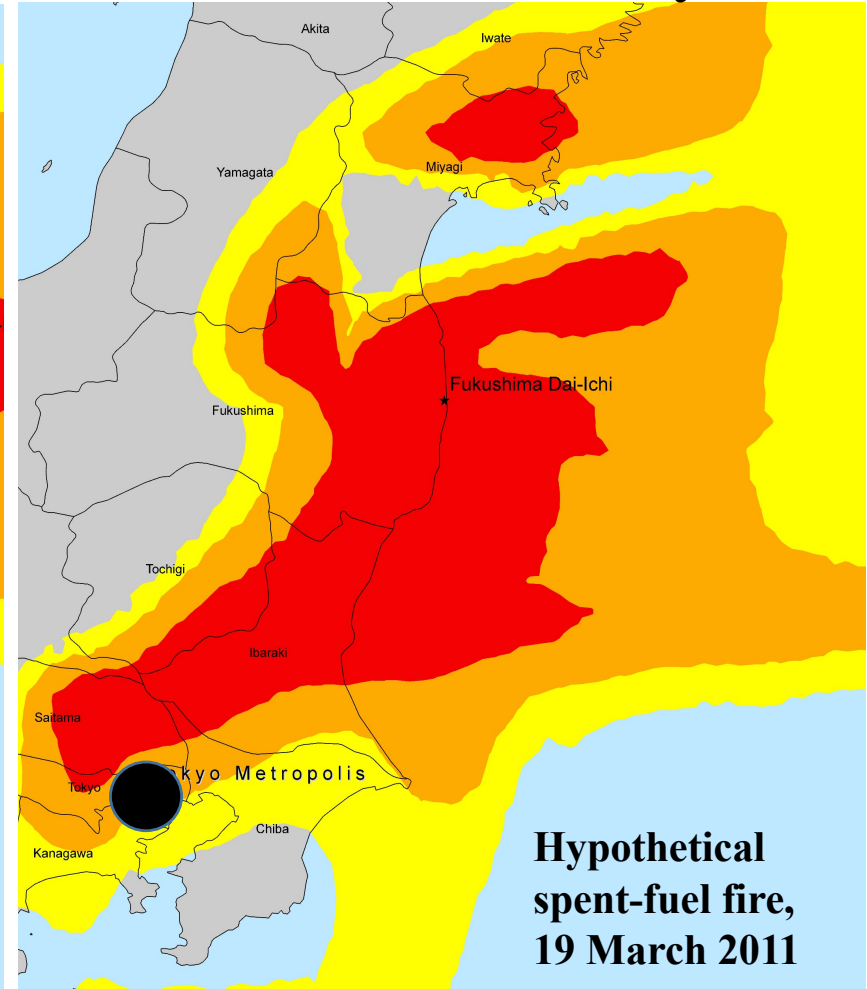


Fukushima Accident

Wind to Sea



Wind toward Tokyo



Fire in Fukushima spent fuel pool #4

Should Ukraine have kept the (~ 5000) nuclear weapons it inherited? (Belarus and Kazakhstan also were inheritor states)

- Nuclear and command infrastructure was in Russia
- Russia might have seized the weapons before Ukraine could create the support infrastructure.
- But some non-nuclear-weapon states have drawn other lessons from the US attack on Iraq (2003), NATO's attack on Libya (2011) and now Russia's attack on Ukraine after they abandoned nuclear weapons.
- Japan, Brazil and Iran have preserved a nuclear-weapon option.
- Also, Japan and about 30 other countries are under the US nuclear "umbrella," which includes the possibility of the US using its nuclear weapons against a non-nuclear attack, i.e. using nuclear weapons first.

Should Japan Keep Its Nuclear-weapon Option?

Is that one reason why Japan keeps unnecessary and uneconomic fuel cycle facilities?

- **Recycling plutonium in mixed-oxide (MOX) fuel** will cost Japan an order of magnitude more than the equivalent amount of low-enriched uranium fuel.
- But about 9 tons of unirradiated plutonium in Japan as of the end of 2020 is enough for ~1000 Nagasaki bombs or 2000 modern warheads.
- JNFL's small **enrichment** capacity is not enough to fuel a single power reactor.
- But it could produce 300 kg per year of weapon-grade uranium, enough for 25 modern fission warheads/year, or 1700 kg/yr, enough for 140 warheads/yr, if fed 5% low enriched uranium.

Should Japan Operate the Rokkasho Reprocessing Plant?

- JNFL/FEPC plan is to separate 2 tons of plutonium in FY23-24 and load 2 tons of plutonium in FY22-24.
- But plutonium loaded in MOX fuel would come from France. (The plan is to fabricate the 2 tons separated in Japan two years later.)
- Therefore, *stock in Japan would increase by 2 tons during FY23-24.*

Will the Rokkasho MOX Fuel Fabrication Plant ever be operational?

- *“It plans to commence operations in October 2012, but this schedule will definitely not be met,” CNIC: Nuke Info, July/August 2007*
- *“Construction works are scheduled to be completed in first half of FY2024.” JNFL, with operation in FY2025. But construction only 12% complete in June 2021.*
- *JNFL’s MOX plant might never operate: The UK MOX plant was completed in 1997 but abandoned in 2011 after operating at an average of 1% of capacity for ten years, 22 tons of Japan’s separated plutonium is stranded in UK as a result.*

Our goal should be: zero nuclear weapons, zero separated plutonium and zero national enrichment plants

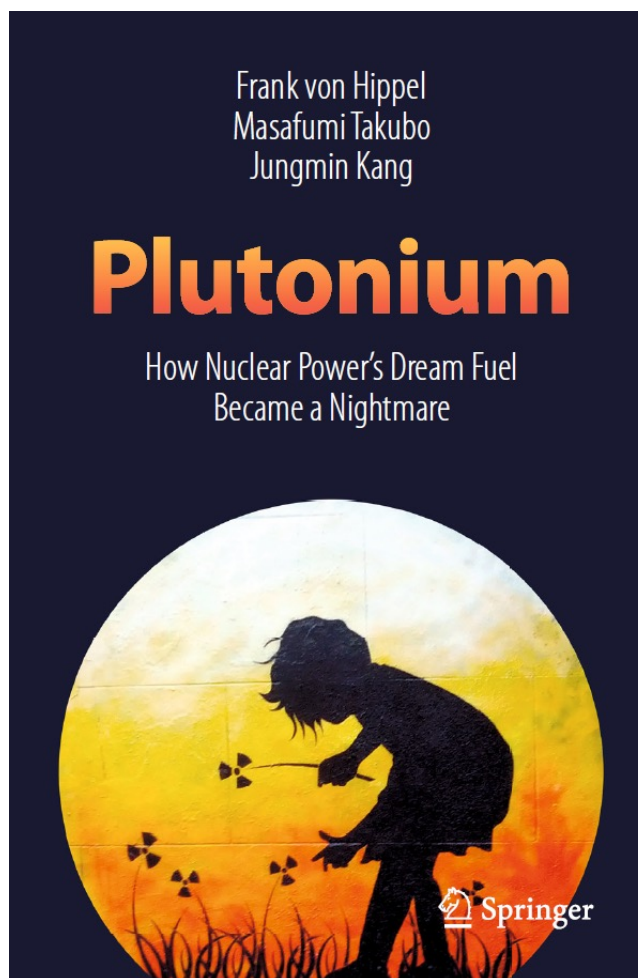
- *We have been lucky to have no nuclear weapons used against cities since Nagasaki: many threats and false warnings, some sociopathic leaders*
- *We cannot assume that our luck will continue.*

Instead of fighting against a US No First Use position, Japan should join with other countries to:

- **Call on US and all nuclear-armed countries to commit to no first use of nuclear weapons.**
- **Send observers to the first conference of parties to the Treaty on the Prohibition of Nuclear Weapons in June in Vienna.**
- **End plutonium separation *for any purpose* and eliminate existing stocks.**
- **Follow the example of Germany, the Netherlands and the United Kingdom and put all enrichment plants under multinational control**

For more information
on the dangers of civilian
plutonium separation
see this book and
Japanese coauthor's
website Kakujoho.

<http://kakujoho.net/>



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プルトニウム削減への電力間融通、と報道 —国際社会の懸念を払拭できるか？

2月16日、東奥日報が「電事連、プルトニウム削減へ電力間融通」と報じました。「電気事業連合会（電事連）は、電力各社が英仏に保管しているプルトニウムの消費に向け、各社間で融通し合い総量を削減する方向で調整」していて、「電事連は近く融通案を公表する」とのことです。電事連が昨年2月に公表していた英

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