

Japan's Plutonium Program: No Need for Proposed Shipment

April 2013



Pacific Pintail arriving at Takahama Nuclear Power Plant, June 2001.
The lightly armed vessel was in Japan to transport back to the UK plutonium MOX fuel rejected due to deliberately falsified quality control reports. Shaun Burnie, Japan, 2001

No plutonium demand in Japan

As a result of the Fukushima Daiichi accident, Japan closed all of its remaining nuclear reactors by May 2012. Two reactors resumed operation in summer 2012, but all others remain closed. The process for approving the restart of these reactors will begin after July 2013. The intended recipient for the up coming plutonium MOX fuel shipment, Takahama unit 3, owned and operated by Kansai Electric Power Company, Inc. (KEPCO), remains closed, along with all but two operating reactors in Japan.

Post-Fukushima requirements for the Takahama nuclear power plant site include completion of a tsunami protective sea wall which is due to be completed in March 2015; KEPCO has not even applied for restart of Takahama Unit 3. It is therefore not possible for KEPCO to load this plutonium MOX fuel even if it were to be delivered. It is by no means certain that the reactor will meet revised safety guidelines or that the public will allow MOX fuel use to proceed.

Thus, Japan and France have failed to justify a hazardous trans-global plutonium shipment to a program incapable of actually utilizing MOX fuel. The nations along the potential transport route in the Caribbean, Central and South America, sub-Saharan Africa, and South Pacific, despite their decades of opposition¹, will once again be subjected to a nuclear transport with no justification. As with previous cargoes, the most likely scenario is that the plutonium fuel will remain in storage at the reactor site, adding further to Japan's ever-increasing stockpile of weapons-usable material.

Despite repeated policy statements by the Japanese Government that no plutonium would be

¹ See for example, <http://djilp.org/wp-content/uploads/2011/08/The-Problems-Gaps-Nuclear-Liability-Conventions-Analysis-How-Actual-Claim.pdf>; and <http://losi.tamucc.edu/Panels/Panelist%20Presentations/Presentation%20-%20Prof.%20Luis%20Rodriguez-Rivera.pdf>; and, http://www.hawaii.edu/elp/publications/faculty/JVD/Ultrahazardous_Radioactive_Materials.pdf; and http://belfercenter.hks.harvard.edu/publication/208/international_nuclear_waste_transportation.html

stockpiled, Japanese plutonium policy failure over the past three decades has led directly to a program that has produced a huge stockpile of nuclear weapons material for which there is no peaceful use.

It is clear that this latest shipment is an attempt by the French state nuclear company, AREVA, to create the impression that its nuclear business with Japan is back on track after the Fukushima accident. This is an illusion, driven by a strategy that puts anticipated business above nuclear safety and non-proliferation considerations. Given AREVA's track record, this is not a surprise to us: witness the growing financial and technical problems with the AREVA MOX fuel production project at the Department of Energy's Savannah River Site.²

However, it is particularly troubling that even the intended recipient, KEPCO, is stating that it was pressure from France demanding it take receipt of plutonium MOX fuel that has led to this planned shipment.³ Given AREVA's failed domestic plutonium policy,⁴ which has led to the stockpiling in France of over 57 tons of separated civil plutonium⁵, we see little additional relative risk in continuing to store the 20 MOX fuel assemblies in la Hague.

Japan's plutonium stockpile policy

As you are well aware, Japan's spent fuel reprocessing policy has been a central pillar of its nuclear and energy program for several decades. You will also be aware that the policy has failed.⁶ The \$20-billion Rokkasho Reprocessing Plant is unlikely to ever operate at capacity due to technical flaws, yet plans to operate and separate further plutonium continue. Japan's attempts to commercially develop Generation IV fast breeder reactors have also failed, despite billions of dollars invested in reactors such as the prototype fast-breeder reactor Monju.⁷

The reprocessing of spent reactor fuel in Europe and the return of separated plutonium MOX fuel have generated opposition worldwide, as well as domestically in Japan. It should be noted that the first plutonium MOX fuel shipment to Japan in September 1999 led to half the cargo being returned from Takahama to the UK, following the discovery by Japanese citizens groups of deliberately falsified quality control safety data.⁸

The other half of the MOX cargo was delivered to the Fukushima-Daiichi site.

Opposition due to safety⁹ concerns from Japanese citizens groups (including some of the signatories to this letter¹⁰) as well as the Fukushima Prefectural Governor, led to an eleven-year delay in the start of the use of MOX fuel in Japanese commercial reactors. In August-September 2010, Tokyo Electric Power Company (TEPCO) finally succeeded in loading the plutonium MOX fuel into Fukushima Daiichi unit 3.¹¹ Six months later that MOX fuel, together with the other fuel in the core, and two other reactors, suffered meltdown following the events of March 11th 2011.

2 See, <http://www.slideshare.net/MATRROrg/tom-clements-mox-plutonium-briefing-6292012> and <http://www.bloomberg.com/news/2013-03-20/costs-soar-almost-3-billion-at-plutonium-plant.html>

3 See, <http://www.japantimes.co.jp/news/2013/03/21/national/takahama-mox-fuel-shipment-in-works/>

4 See, http://www.npolicy.org/userfiles/image/Nuclear%20Power%20Made%20in%20France,%20A%20Model_pdf.pdf

5 See, <http://fissilematerials.org/>

6 See, http://www.greenaction-japan.org/internal/090515_FCCJ.pdf and http://www.greenaction-japan.org/internal/090515_FCCJ_ban.pdf and <http://www.cnrc.jp/english/topics/cycle/MOX/>

7 See, <http://www.japantimes.co.jp/news/2012/02/22/national/hopes-fade-for-monjus-energy-dream-promise/#.UVpKMI7A420>

8 See, http://www.greenpeace.fr/stop-plutonium/dossiers/MOX_quality_annexe4.pdf

9 *Ibid.*

10 See, <https://www.commondreams.org/newswire/2011/03/31-5>

11 See, <http://www.independent.co.uk/environment/bnfl-fighting-for-survival-after-fuel-fiasco-737935.html>

As a consequence of these fundamental failures, Japan, rather than demonstrating a use for plutonium has instead accumulated a plutonium stock of over 44 tons¹² – the largest such inventory of any nation outside the declared nuclear weapons states of the U.S., Russia, the UK and France. Japan's plutonium stock is more than twenty times greater than that of the People's Republic of China, which has less than 2 metric tons contained in its military and non-military inventory.¹³

Japanese utilities have recently admitted that they are unable to provide a plan for the use of their domestic plutonium stockpile, underscoring that without a reversal of policy Japan will continue to accumulate weapons-usable plutonium for which it has no clearly defined or justified peaceful use.¹⁴

United States active support for Japan's plutonium stockpile policy

As organizations opposed to the use of plutonium in the commercial nuclear fuel cycle, we believe the decision of the U.S. government in 1988 to grant advance programmatic approval to Japan's plutonium program was a major mistake that is long overdue for revision.¹⁵ The opportunity to influence Japan's policy exists in the aftermath of the tragic events of March 11th 2011. As the then-government of Prime Minister Naoto Kan was moving towards a major reversal of nuclear policy, the U.S., rather than actively supporting a change in policy, took the extraordinary step of encouraging the continued development of Japan's plutonium program.¹⁶ In mid-2012, the U.S. State Department, rather than reducing the global threat from fissile materials, opted to encourage Japan to continue its fast reactor development. The justification for such a misguided policy has yet to be explained. Whether strategic, commercial or both, U.S. policy runs counter to global efforts to reduce the security and proliferation threats from nuclear weapons-usable fissile material.

East Asia policy failures

The long-standing U.S. policy of acquiescing to Japan's acquisition of bomb material has led directly to policies that directly challenge U.S. efforts to reduce proliferation threats in East Asia. Nowhere more is this policy failure evident than on the Korean Peninsula. Decades-long efforts by the U.S. to prevent the Republic of Korea (ROK) from acquiring weapons-usable plutonium has been directly undermined by the discriminatory policy applied to Japan, a short distance across the East Sea/Sea of Japan.

We find it incomprehensible that at a crucial stage in the renegotiation of the ROK Peaceful Nuclear Cooperation Agreement, due to be completed by May of this year,¹⁷ that the U.S. could have sanctioned a shipment of plutonium to Japan. The demand of the government of the Republic of Korea for the right to access spent reactor fuel reprocessing technology and plutonium, which we believe is unjustified, is only strengthened by the United States' current discriminatory application of nuclear non-proliferation policies.¹⁸ Those in the nuclear establishment in Korea who advocate acquiring plutonium whether for peaceful or non-peaceful policies will only have their positions enhanced by the U.S. approval for the proposed MOX fuel shipment and the continuation of the Japanese plutonium program.¹⁹

12 See, <http://www.iaea.org/Publications/Documents/Infocircs/2012/infocirc549a1-15.pdf>

13 See, <http://fissilematerials.org/>

14 See, <http://mainichi.jp/english/english/newsselect/news/20130326p2a00m0na006000c.html>

15 See, <http://www.nci.org/p/pl-wm99.htm>

16 See, U.S. Deputy Secretary for Energy, Daniel Poneman, <http://japandailynews.com/u-s-japan-meet-to-discuss-interest-in-fast-reactor-257319>

17 See, http://english.hani.co.kr/arti/english_edition/e_international/578846.html

18 See, <http://english.yonhapnews.co.kr/national/2013/03/29/10/0301000000AEN20130329007051315F.HTML>

19 See, http://www.nytimes.com/2013/03/18/opinion/no-nukes-on-the-korean-peninsula.html?_r=0

Inadequate transport security including passage through the Korea Strait

As organisations actively opposed to Japan's plutonium program over the past decades, we are well aware of the reduced security arrangements for these shipments. The use of a dedicated armed naval escort ship at least provided some assurance that security required for transporting nuclear weapons-capable material was being taken seriously. As you know this policy was dropped in the 1990's following years of lobbying by the UK, France and Japan.²⁰ Today plutonium sufficient for the manufacture of tens to a few hundreds nuclear weapons is conducted by merchant vessels, with the addition of armed police and naval cannon. While we believe in principal that these security arrangements are wholly inadequate for such material, we are particularly concerned about the planned shipment due to leave France between April 14th and 19th 2013.

As has been demonstrated over the years, it is possible to both predict the departure²¹, route and precise location of these nuclear transport ships.²² The destination of this plutonium shipment is the nuclear port at Takahama on the Sea of Japan/East Coast. The shipment will have to pass through the East Sea/Sea of Japan which currently is on the frontline of a major escalation in tensions between the DPRK, the ROK, Japan and the United States. To compound this risk, the most likely route to Takahama will see the shipment pass through the Korea Strait between Japan and the Korean Peninsula. Given the current crisis in the region and the unpredictability of events in the coming months, immediate suspension by the U.S. State Department of U.S. approval for the transport plan pending a thorough review is wholly warranted. Congress must be informed that this prudent step is being taken and that the U.S. will not facilitate a potentially provocative shipment of weapons-usable plutonium to Japan at this time.

For further information:

Aileen Mioko Smith
Green Action Kyoto, Japan
amsmith@gol.com

Won Young
Nuclear Campaign, KFEM
Seoul, Republic of Korea
yangwy@kfem.or.kr

Martin Forwood
CORE, Cumbria, United Kingdom
martin@core.furness.co.uk

Shaun Burnie
Friends of the Earth,
Washington DC
sburnie@foe.org

20 See, <http://www.nci.org/k-m/mox11698.htm>

21 See, <http://energie-climat.greenpeace.fr/mox-areva-prevoit-un-nouveau-transport-vers-le-japon>

22 See, for example, <http://www.greenpeace.org/international/en/news/features/skipppers-account-of-nuclear-f/>