



Savannah River Site Watch

Savannah River Site Watch
Columbia, South Carolina USA
December 21, 2015

--- Submitted to U.S. Department of Energy & State of South Carolina ---

***DOE'S SOUTH CAROLINA PLUTONIUM DILEMMA:
PLUTONIUM KEEPS SECRETLY COMING IN BUT NO VIABLE PLAN TO TAKE IT OUT***

South Carolina Reviewing Plan by U.S. Department of Energy (DOE) to Import Plutonium to the Savannah River Site (SRS) at Same Time Governor Nikki Haley Demands Compliance with Law Requiring Removal of 1 Metric Ton of Plutonium from SRS by January 1, 2016, Due to Failure of Problem-plagued Plutonium Fuel (MOX) Program

Under Guise of Nuclear Non-Proliferation to be Promoted at Nuclear Security Summit in Washington in March 2016, DOE Planning to Import 331 Kilograms (730 Pounds) of Plutonium from Japan to SRS in Early 2016 - Bulk of the Plutonium, 236 kilograms (520 pounds), is of U.K.-Origin and Must Not be Brought to SRS as it Will be Stranded with No Disposition Path Out of South Carolina

DOE affirms that the controversial plutonium-import proposal has a "Potential backlash for increasing inventories at Savannah River when no formal decision on MOX has been announced" – in "GTRI Removal Program Overview," December 3, 2014

The U.S Department of Energy has quietly initiated a confidential process by which a large amount of weapon-usable plutonium in Japan would be brought to the DOE's Savannah River Site (SRS) in South Carolina and be left in long-term storage. The controversial project is now being pursued in order to complete it before the next Nuclear Security Summit in Washington, D.C. at the end of March 2016.



photo: leaders of participating countries at Nuclear Security Summit 2014; Dumping of U.K.-origin plutonium at SRS to be touted at summit in March 2016 as hollow non-proliferation "success?"

If the shipment takes place, 331 kilograms (730 pounds) of plutonium that originally came from the United Kingdom, United States and France would be stranded at SRS with no disposition path out of South Carolina. Most of the plutonium - 236 kg (520 pounds) - originated from the United Kingdom. The plutonium, supplied to Japan's Fast Critical Assembly (FCA) for nuclear reactor research purposes, would end up being stockpiled for an unknown period of time at SRS along with 12.8 metric tons of plutonium already stored at the site.



photo: K-Reactor plutonium storage facility (K Area Complex) at the Savannah River Site, holds about 12.8 metric tons of weapon-grade plutonium; by DOE's Savannah River Site

Any plutonium import at this time will not only exacerbate problems with the mismanaged plutonium disposition program at SRS but will also create a political dilemma for Governor Nikki Haley of South Carolina. The National Defense Authorization Act of Fiscal Year 2003, as amended, stipulates that plutonium removal from SRS is required to begin on January 1, 2016. The governor has demanded compliance with the law and the State of South Carolina is considering legal action against DOE.



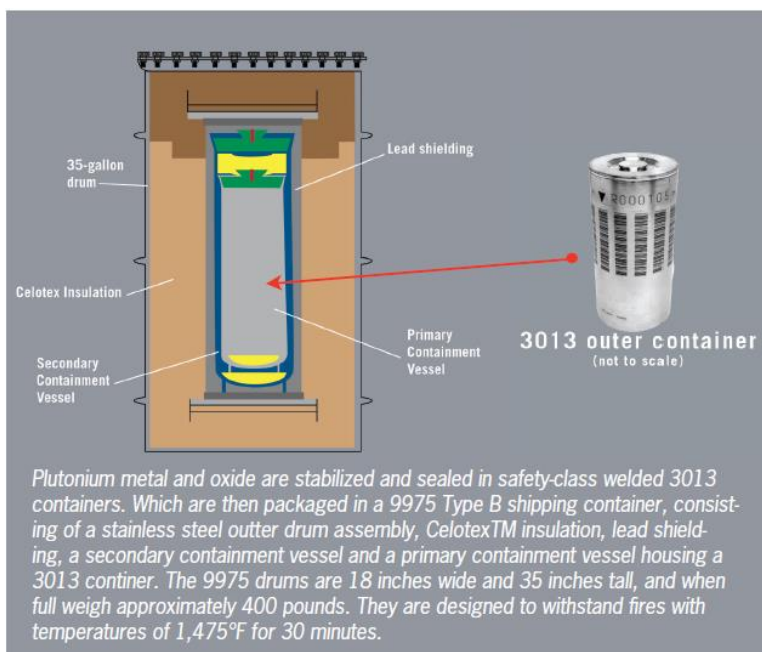
photo: Mixed Oxide Fuel Fabrication Facility (MOX plant) under construction at SRS; rumors of construction problems are constant, DOE testified to Congress on October 7, 2015 that the "reinstallation" rate for items improperly installed was 25%; ©High Flyer, special to SRS Watch, taken October 1, 2015

At the time the law requiring plutonium removal was passed it was envisioned by some that the plutonium fuel (MOX) plant at SRS would be operating and supposedly disposing of 34 metric tons of surplus weapons plutonium. That program was ill-conceived to begin with, is woefully behind schedule and vastly over budget, and likely to be cancelled. Thus, though DOE now has a legal obligation to remove 1 metric ton of plutonium from South Carolina by January 1 it is unlikely to comply with the law.

To make matters worse, instead of removing plutonium in order to comply with the law, DOE is on track to import about one-third as much plutonium as is required to be removed from the state by January 1, 2016. If the import of all the foreign-origin plutonium now in Japan were to go forward, SRS would have around 13.1 metric tons of plutonium with no known disposition path and no viable plan to remove it from South Carolina. Thus, the current plan to import 331 kilograms of plutonium with no exit path from SRS should cause alarms bells to go off with the government of South Carolina.

DOE is likely to portray bringing the plutonium to SRS as a nonproliferation “victory.” But plutonium that originated in the United Kingdom, which makes up the bulk of the 331 kilograms being analyzed for import, and French-origin plutonium should not be brought to SRS. Both the U.K. and France are nuclear weapon states with large plutonium stockpiles and they can deal with their own material. Shipment of the U.K. and French plutonium to SRS would simply be nuclear dumping. An incentive for this is also DOE and SRS’s desire for making nuclear material and nuclear waste import a bigger business at SRS, while South Carolina and neighboring Georgia assume the associated environmental risks.

If it got into the wrong hands, the 331 kilograms of plutonium from Japan does constitute a proliferation risk. This amount of plutonium is enough for at least 41 nuclear weapons, using the International Atomic Energy’s figure of 8 kilograms as a “significant quantity” (SQ) of plutonium for a weapon.



graphic: Storage system for surplus weapon-grade plutonium stored in the K Area Facility at the Savannah River Site; Savannah River Site fact sheet



photos: Storage in the K Area Facility at SRS of "9975" storage containers holding weapon-grade plutonium in "3013" cans; in presentation to SRS Citizens Advisory Board, July 28, 2015

Environmental Assessment (EA) being Prepared in Secret on Import of Plutonium in Japan to SRS

According to a DOE schedule released on December 16, DOE authorized the preparation of an "environmental assessment" (EA) on the plutonium import on October 30, 2015. The EA is entitled ***Environmental Assessment for Gap Material Plutonium - Transport, Receipt, and Processing***. The plutonium in question is called "gap" plutonium as it falls under material not earlier considered for import into the U.S., primarily to SRS, and much of it is of foreign origin.

EA Number Title, Location	<u>Document Manager</u> GC-54 Staff Attorney	Milestones Accomplished
Defense Programs		
DOE/EA-2024 Environmental Assessment for Gap Material Plutonium - Transport, Receipt, and Processing	<u>Ross Matzkin-Bridger, NNSA</u> Carrie Abravanel	EA Determination 10/30/2015 Transmittal to State State(s) SC EA Approved EA Distributed FONSI

Image: from "U.S. DEPARTMENT OF ENERGY ENVIRONMENTAL IMPACT STATEMENTS AND ENVIRONMENTAL ASSESSMENTS STATUS CHART," December 16, 2015, page 24, Office of NEPA Policy and Compliance

According to a key DOE document on nuclear material import, ***GTRI Removal Program Overview***, dated December 3, 2014, there is an indication that the new EA would need to analyze import of up to 1400 kgs of plutonium scattered around the world, which includes the 331 kg in Japan.

- Global civilian plutonium inventories have risen sharply over the last 20 years
- Further international engagement is needed to stop plutonium accumulation and start drawing down inventories
- Need to increase ceiling for the amount of material we can accept in the U.S.
 - NEPA coverage currently limited to 100 kg
 - Increasing limit to 1,400 kg to provide sufficient capacity to address other plutonium materials such as the Japan FCA plutonium
- Potential backlash for increasing inventories at Savannah River when no formal decision on MOX has been announced



Plutonium Packaging in Sweden

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*DOE presentation **GTRI Removal Program Overview**, December 3, 2014, on need to analyze import of 1400 kilograms of “gap” plutonium in new Environmental Assessment; note mention of “backlash” in South Carolina due to failure of MOX project to move forward with plutonium disposition*

That same document affirms, in a bullet point, the likely concern in South Carolina about the plutonium import while the MOX program at SRS is in chaos: *“Potential backlash for increasing inventories at Savannah River when no formal decision on MOX has been announced.”*

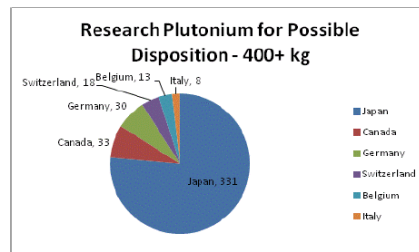
The plutonium shipments would be managed by DOE’s Office of Material Management and Minimization (M³), formerly called the Global Threat Reduction Initiative (GTRI). The M³ program is administered by DOE’s National Nuclear Security Administration (NNSA).

No timeline for the preparation of the EA document was given and it is believed that DOE does not want to solicit public comments, hold a public meeting or prepare a more in-depth “environmental impact statement” (EIS) on the import, storage and lack of a disposal plan for the 331 kilograms of plutonium proposed to be removed from Japan. Nonetheless, this document is being submitted to DOE/NNSA as part of the EA record and also being submitted to officials with the State of South Carolina.

It appears that a secretly prepared draft EA document has been sent to the states of South Carolina and Georgia for comment. DOE has withheld the document from the public and is likely to keep it secret. Requests by SRS Watch to DOE as to the status of the EA have gone unanswered.

A similarly secret EA was prepared in 2010 concerning import of “gap” plutonium but it only covered up to 100 kilograms of the dangerous material. Under that EA, a lesser form of a National Environmental Policy Act (NEPA) document than an EIS, plutonium from Belgium (13 kg), Italy (8 kg) and Canada was secretly brought in to SRS. About 3 kilograms of plutonium from Sweden was also imported in March 2012, about which DOE’s National Nuclear Security Administration and the White House did make a formal announcement. It is assumed that the U.S. took ownership of that foreign plutonium, which languishes at SRS with no plan whatsoever for its disposition.

- Have identified over 400 kilograms of plutonium from research facilities that need to be addressed
 - This material can be particularly portable and in attractive forms that are readily weaponizable
 - Material management and security can be a challenge
 - Framework exists to remove this type of material to the United States but alternate disposition pathways are also being explored
- Have removed all excess plutonium from Belgium, Italy and Sweden
- Have initial agreement to remove all plutonium from the FCA in Japan, as well as all excess plutonium from two countries in Europe



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DOE presentation **GTRI Removal Program Overview**, December 3, 2014, affirming “all excess plutonium” removed from Belgium, Italy and Sweden (to SRS), removal of “all plutonium from the FCA,” and possible plutonium removal from Germany and Switzerland; it is believed that Canadian plutonium is already at SRS but DOE refuses to confirm

DOE/NNSA have obliquely admitted import of the Belgian and Italian plutonium, in the document **GTRI Removal Program Overview**, and indicated that about 81 kilograms plutonium from Germany, Canada and Switzerland may also be imported. If this happens, that plutonium would likely also be stranded at SRS along with surplus weapons plutonium, with no exit path out of South Carolina, an issue which seems of lesser concern to NNSA than importing the material from countries that pose little proliferation risk.

After the secret EA was finalized in 2010, a **Finding of No Significant Impact for the Environmental Assessment for the U.S. Receipt and Storage of Gap Material** was issued on May 26, 2010. In determining that the proposal was not a “major federal action” impacting the environment, the “FONSI” document authorized import of up to 100 kilograms of plutonium to SRS. The FONSI stated that in its comments that South Carolina “expressed reservations about the Federal Government’s ability to ensure timely disposal of the gap material in light of the delayed licensing of a geologic repository.”

The FONSI issued in 2010 discussed sea shipment of the plutonium and, noting that there is no certified container to legally fly plutonium over U.S. territory, made the point that air transport could be allowed if a “national security exemption” was made. Such a “national security exemption” allowing the unprecedented air transport of plutonium from Japan to the U.S. would obviously imply that security risks or credible terrorist threats were known to exist in Japan or along sea shipment routes.

It is believed that after DOE finishes preparation the current confidential EA that a similar FONSI will be publicly released around mid-January 2016. It is anticipated that up to 1400 kilograms of plutonium will be covered by the EA and subsequent FONSI. It can be assumed that SRS would be stuck with much of that material, with no plans for its disposition or removal from the state of South Carolina. Though any plutonium coming in to SRS would lack a disposal path and given that 331 kilograms of plutonium clearly

pose environmental risks in indefinite storage at SRS, the EA and FONSI will likely downplay legitimate concerns in order to justify transport of the material for what amounts to dumping of the U.K. and French plutonium at SRS. A full EIS on the matter should be prepared and public comments allowed.

Sea or Air Shipment? Plans Already Under Way?

Though it cannot be officially confirmed, it is possible that DOE has already started efforts to remove the plutonium in Japan and may have sent personnel and packaging equipment to the FCA facility at Tokai.

While it is unclear what transport method would be used from Japan, the material could be flown if a national security emergency is declared. Sea shipment is the method generally used for shipments of plutonium and spent nuclear fuel. U.K.-flagged vessels owned by Pacific Nuclear Transport Limited (PNTL) have frequently been used in the past for such transport and those vessels have often been tracked by public interest organizations concerned about environmental impacts, security risks and nuclear proliferation implications.

The PNTL's Pacific Egret, which has deck-mounted cannons, was used to transport Italian and Belgian and possibly Canadian plutonium to SRS in early 2014, via the naval port in Charleston South Carolina. A second armed PNTL vessel, the Pacific Heron, is also a possibility for the transport, as part of an armed convoy.



photo: Pacific Egret, U.K.-flagged nuclear transport ship operated by Pacific Nuclear Transport Limited (PNTL), off U.K. coast at home port of Barrow-in-Furness, Cumbria, UK; photo ©Martin Forwood, Cumbrians Opposed to a Radioactive Environment (CORE), special to SRS Watch

The Ramsden Dock Terminal Stakeholder Group (RDTSG) operates the docks at which the PNTL ships are based, in Barrow-in-Furness. (This port city on the Irish Sea is near to the Sellafield nuclear site where the U.K. has for unknown reasons stockpiled over 120 metric tons of plutonium – the U.K. does not use MOX fuel and also has no disposition plan for that plutonium.) It was revealed in the minutes of a meeting of the Ramsden Dock Terminal Stakeholder Group on December 14, 2015 that the "Pacific Grebe is currently berthed in Kobe, Japan following the successful completion of the 17th transport of High Level Waste to Japan. The vessel is due to return in Spring 2016."

Use of the Pacific Grebe for the transport is a possibility but that PNTL vessel has not had deck-mounted guns, the absence of which clearly necessitates that an armed escort ship would be required to accompany her. A U.S.-approved shipment security plan will have to be devised and approved but the U.S. Government has been mum about the level of security that would be needed for transport of the 331 kilograms of plutonium.

No U.S. container has been certified for air transport. The U.S. Nuclear Regulatory Commission's *PART 71—PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL* stipulates in Section 71.74 the "Accident conditions for air transport of plutonium," and that a plutonium-transport container must meet a number of conditions so as to survive impact, fire and immersion in water. So far no container has been able to meet the stringent licensing requirements. The only way such a container could be flow over U.S. territory is with the issuance of the "national security exemption" discussed above.

Japan Reveals that 331 Kilograms of Plutonium are at the Tokai Nuclear Facility

Japan's Atomic Energy Commission has publicly revealed that 331 kilograms (730 pounds) of foreign-origin plutonium are now stored at Japan's Fast Critical Assembly (FCA) at Tokai Research and Development Center, on the Pacific Ocean north of Tokyo.

Sources in Japan report that approximately 236 kilograms of the plutonium are of U.K.-origin, 93 kilograms are of U.S.-origin and 2 kilograms are of French-origin. The plutonium was taken to Japan primarily in the 1960s and 1970s, as part of problem-plagued research and development program to develop sodium-cooled plutonium "breeder" reactors. The FCA, which began operation in 1967, has been used in fuel development for the Joyo and Monju fast reactors.

According to the Japan Atomic Energy Agency (JAEA), the Fast Critical Assembly "is the country's only critical assembly for the study of the neutronic characteristics of fast reactors" and "is designed for studying physics characteristics of fast breeder reactor cores. Experiments are carried out to provide integral data for core design of a fast reactor by building various simulating assemblies. The reactor assembly is divided into two halves...which are separated for fuel loading, then brought together for operation."

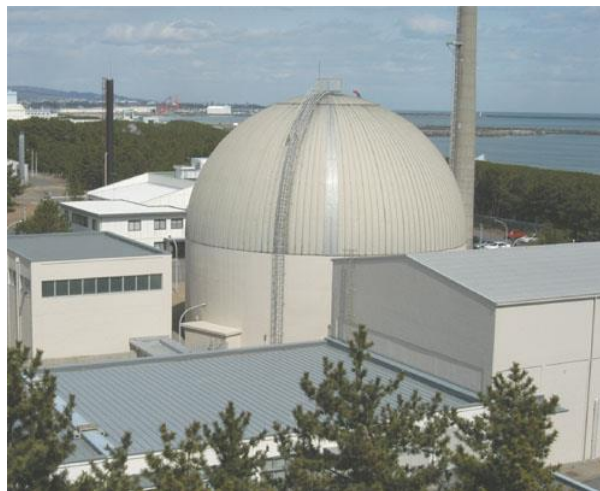


photo: Fast Critical Assembly (FCA) building at the Tokai Research and Development Center at Tokai-Mura, 115 kilometers north of Tokyo; by Japan Atomic Energy Agency (JAEA)

The JAEA explains that “Experimental cores are built in FCA by hand-loading plates of reactor materials (uranium, plutonium, sodium, stainless steel, etc.) into drawers...which are then put in the desired pattern into each half of the assembly, a honey-comb of square tubes. The facility offers a large flexibility for fuel composition and core geometry.”

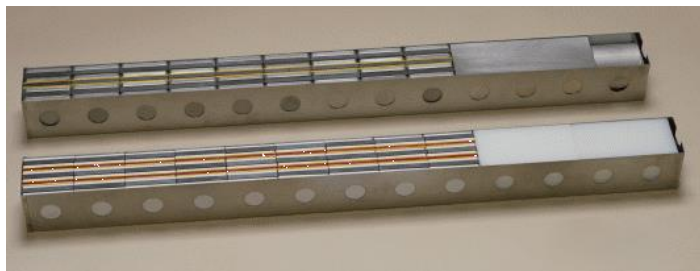


photo: “Drawers” into which plates of reactor materials (including uranium, plutonium, sodium, stainless steel) are inserted for testing in the Fast Critical Assembly (FCA); by Japan Atomic Energy Agency (JAEA).

In 1996, DOE revealed a host of important details about plutonium that had formerly been held secret. In ***Plutonium: The First 50 Years***, DOE stated that “from 1962 to 1991, approximately 114 kg of plutonium were exported to Japan. The largest shipments occurred in 1969 and 1970 when 104 kg of plutonium in the form of reactor fuel elements and oxide were shipped to Japan, primarily to the Fast Critical Assembly at Tokai-Mura.” The U.S.-origin plutonium at Tokai comprises a much smaller amount than the U.K.-origin at the FCA at the Tokai site.

In an undated DOE document obtained by Paul Leventhal of the Nuclear Control Institute (and linked below) it can be seen that both the U.K. and U.S. supplied high-quality plutonium, as well as highly enriched uranium (HEU), for a host of research and development activities related to Japan’s “fast” reactor program. (That program has essentially collapsed due a crippling sodium fire on December 8, 1995 at the Monju plutonium breeder reactor and due to fruitless efforts since then to restart the reactor and renew the project for reactors to “breed,” or produce weapon-usable plutonium.)

DOE stated in ***Draft Surplus Plutonium Disposition Supplemental Environmental Impact Statement*** of July 2012 that “Gap material plutonium would be dispositioned along with U.S. surplus plutonium.” Thus, if taken to SRS as expected, none of the FCA plutonium brought in to SRS would have any clear disposition path out of the state of South Carolina and would only amplify growing problems with the mismanaged plutonium fuel (MOX) project now being undertaken at SRS. For sure, the import would highlight that DOE’s plutonium disposition plans at SRS are in disarray and so far have failed.

Proliferation Risks in Japan: Domestic Plutonium Stockpile and Rokkasho Reprocessing Plant

According to Greenpeace, which has campaigned against plutonium stockpiling in Japan for 25 years:

The decision to remove weapons grade plutonium from Japan ignores the fact that more than 10 tons of weapons usable plutonium remain in storage across Japan at nuclear power plants, fuel fabrication and reprocessing plants. If there is a security and proliferation risk from the plutonium intended to be transported from Japan to the United States, and there are many risks, then Japan’s planning the expansion of its plutonium program is in direct contradiction to these efforts to reduce the threat from bomb material. The US \$21 billion reprocessing plant at Rokkasho-mura when operated

could separate as much as 8 tons of plutonium each year – plans for operation have recently been put back to 2018.” (communication to SRS Watch on December 15, 2015)

“If Japan were serious about reducing the threat from nuclear weapons material they would be announcing the end of plans to expand plutonium production. Looking for headlines at the Nuclear Security Summit in March ignores the much larger problem of Japan's plutonium program,” said Shaun Burnie, nuclear specialist at Greenpeace Germany, who has worked since the early 1990's on Japan's plutonium-stockpiling program and other aspects of the nation's nuclear fuel cycle program.

Nuclear Security Summits: Selective Approach to Proliferation, Ignores Plutonium Disposition Problems

In large part, it appears that the urgency to remove the plutonium from Japan is in order for the U.S. to claim a hollow nuclear non-proliferation “victory” at the Nuclear Security Summit to be held from March 31-April 1, 2016 at the Walter E. Washington Convention Center in Washington, D.C.



photo: The Nuclear Security Summit at the Walter E. Washington Convention Center in Washington, D.C., April 13, 2010, from U.S. State Department

At the Nuclear Security Summit in 2014, the US and Japan affirmed efforts, for nuclear non-proliferation reasons, to remove foreign-origin plutonium and bomb-grade highly enriched uranium (HEU) from Japan:

Today in The Hague, the Netherlands, on the occasion of the third Nuclear Security Summit, Prime Minister Abe and President Obama pledged to remove and dispose all highly-enriched uranium (HEU) and separated plutonium from the Fast Critical Assembly (FCA) at the Japan Atomic Energy Agency (JAEA) in Japan. This effort involves the elimination of hundreds of kilograms of nuclear material, furthering our mutual goal of minimizing stocks of HEU and separated plutonium worldwide, which will help prevent unauthorized actors, criminals, or terrorists from acquiring such materials. This material, once securely transported to the United States, will be sent to a secure facility and fully converted into less sensitive forms. The plutonium will be prepared for final disposition. The HEU will be downblended to low enriched uranium (LEU) and utilized for civilian purposes.

Unfortunately, the governmental statement on removal of the plutonium is entirely misleading and inaccurate as there was no plan at the time at the Savannah River Site to convert the plutonium into a “less sensitive form” nor was there any viable plan for its “final disposition.” Nor is there a plan now.

The White House announced on August 10, 2015 that the next Nuclear Security Summit “will be held March 31-April 1, 2016, at the Walter E. Washington Convention Center in Washington, D.C.” and that “the Summit will continue discussion on the evolving threat and highlight steps that can be taken together to minimize the use of highly-enriched uranium, secure vulnerable materials, counter nuclear smuggling and deter, detect, and disrupt attempts at nuclear terrorism.”

It is believed that the rush to deal with the FCA plutonium, as well as other pending transports of nuclear materials, is being done to have the shipment completed by the time of the summit. The aim appears to be to develop a list of non-proliferation accomplishments since the last summit and it is clear that DOE/NNSA hope to have the removal of the 331 kilograms of plutonium in Japan on the list.

If a similar false claim about preparing the plutonium for final disposition is issued at the next summit by the White House or DOE/NNSA and that the Japanese plutonium has a disposition path at SRS it will be blatantly false given the problems with construction of the \$12-billion MOX plant at SRS. No clear disposition path exists for any of the 12.8 metric tons of plutonium now at SRS or for any additional plutonium that might be added to that stockpile.

Conclusion: South Carolina Beware of Plutonium Dumping Disguised as Nuclear Non-Proliferation; Reject Receipt at SRS of Plutonium Originating from the United Kingdom and France

The State of South Carolina and the public should pay close attention to the preparation of any statements planned to be issued at the end of the 2016 summit, especially inaccurate statements such as this: “this material, once securely transported to the United States, will be sent to a secure facility and fully converted into less sensitive forms. The plutonium will be prepared for final disposition.”

While there are clear security and proliferation risks from plutonium being stored in certain countries and in certain locations around the world, transport of U.K-origin plutonium and French-origin plutonium to SRS would not be done for nuclear non-proliferation reasons but rather for other unstated political reasons. Lacking a viable plutonium-disposition program and given the legal requirement that DOE begin removing plutonium from South Carolina on January 1, 2016, plutonium originating from those nuclear weapons states must not be shipped to SRS. The U.K and France must take charge of their own plutonium if it is indeed removed from Japan. The State of South Carolina should thus reject receipt of plutonium originating from the U.K. or France.

Bringing plutonium to SRS under the guise of nuclear non-proliferation will result in such plutonium being stranded with no disposition path out of South Carolina. Likewise, the shipment would underscore that both the United Kingdom and France, both of which embarked on questionable projects to amass huge quantities of civil plutonium, don’t want to assume responsibility for plutonium that originated in their respective countries. Neither approach serves the interest of global nuclear non-proliferation.

The U.S. and South Carolina must thus reject any proposal to bring U.K. and French plutonium to the Savannah River Site, where it would only complicate the daunting challenge about what to do with the 12.8 MT of plutonium already stored at the site.

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References and Key Documents:

DOE/EA-2024, Environmental Assessment for Gap Material Plutonium - Transport, Receipt, and Processing – listed in DOE’s “National Environmental Policy Act” status chart, December 16, 2015, with listing of “EA Determination 10/30/2015;” and “Transmittal to State State(s) SC”, page 24:

http://energy.gov/sites/prod/files/2015/12/f27/StatusChart_December2015v2.pdf

White House “Announcement of the Nuclear Security Summit in 2016,” August 5, 2015:

<https://www.whitehouse.gov/blog/2015/08/05/announcement-nuclear-security-summit-2016>

“Joint Statement by the Leaders of Japan and the United States on Contributions to Global Minimization of Nuclear Material, Nuclear Security Summit, March 24, 2014:

<https://www.whitehouse.gov/the-press-office/2014/03/24/joint-statement-leaders-japan-and-united-states-contributions-global-min>

Finding of No Significant Impact (FONSI) for the Environmental Assessment for the U.S. Receipt and Storage of Gap material – Plutonium, May 26, 2010 - analysis of receipt of up to 100 kilograms of foreign plutonium to the Savannah River site and shipment via air allowed only in case of a “national security exemption” (page iii) as a U.S.-certified air-transport cask for plutonium does not exist:

http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/EA-1771-FONSI-2010.pdf

Global Threat Reduction Initiative, GTRI Removal Program Overview, December 3, 2014, this is a key document and confirms Belgian and Italian plutonium to SRS and states that 1400 kilograms of “gap” plutonium should be reviewed for import (in a new “environmental assessment”) & notes “Potential backlash for increasing inventories at Savannah River when no formal decision on MOX has been announced”: <http://dels.nas.edu/resources/static-assets/nrsb/miscellaneous/Dickerson.pdf>

Fast Critical Assembly (FCA) at Tokai Research and Development Center, Japan Atomic Energy Agency:

<http://nsec.jaea.go.jp/ndre/ndre3/trans/fca-e.html> &

https://www.jaea.go.jp/english/04/ntokai/anzen/anzen_05.html

White House Fact Sheet, *Plutonium Removal from Sweden*, March 26, 2012

<https://www.whitehouse.gov/the-press-office/2012/03/26/fact-sheet-plutonium-removal-sweden>

The Status of Plutonium Management in Japan, 21 July 2015, Secretariat of the Atomic Energy Commission, page 7: “Fast Critical Assembly in Tokai R&D Center,” 331 kg total Pu, 293 fissile Pu;

http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryo2015/siryo28/siryo3_e.pdf

SRS Watch news release on farcical federal law “requiring” removal of plutonium from South Carolina, October 27, 2015:

http://www.srswatch.org/uploads/2/7/5/8/27584045/srs_watch_on_srs_plutonium_removal_october_27_2015.pdf

SRS Watch news release on MOX plant construction problems and MOX photos, Nov. 9, 2015:

http://www.srswatch.org/uploads/2/7/5/8/27584045/srs_watch_mox_photo_release_nov_9_2015.pdf

U.S. DOE “Plutonium: The First 50 Years,” February 1996:

page 69: “From 1962 to 1991, approximately 114 kg of plutonium were exported to Japan. The largest shipments occurred in 1969 and 1970 when 104 kg of plutonium in the form of reactor fuel elements and oxide were shipped to Japan, primarily to the Fast Critical Assembly at Tokai-Mura”

<http://nnsa.energy.gov/sites/default/files/nnsa/06-12-inlinefiles/Feb%201996%20PU%20The%20Frist%2050%20Years.pdf>

DOE document listing US-origin and UK-origin plutonium and highly enriched uranium at the Fast Critical Assembly in Japan, total plutonium 291.4 kg, date not specified but 1970s-80s:

http://www.srswatch.org/uploads/2/7/5/8/27584045/japan_fast_critical_assembly_inv.pdf

DOE (U.S. Department of Energy), 2010a, *Environmental Assessment for the U.S. Receipt and Storage of Gap Material – Plutonium and Finding of No Significant Impact*, DOE/EA-1771, National Nuclear Security Administration, Washington, DC, May. OFFICIAL USE ONLY – not public

Draft Surplus Plutonium Disposition Supplemental EIS, volume 2, July 2012:

<http://nnsa.energy.gov/sites/default/files/nnsa/07-12-inlinefiles/Volume%202.pdf>

(at <http://nnsa.energy.gov/aboutus/ouroperations/generalcounsel/nepaoverview/nepa/spdsupplementaleis>)

pages A6-A7, “**A.2.3 Plutonium Recovery through the Global Threat Reduction Initiative**”: *Environmental Assessment for the U.S. Receipt and Storage of Gap Material—Plutonium and Finding of No Significant Impact* (DOE/EA-1771) (DOE 2010a). In this environmental assessment, DOE assessed the potential environmental impacts of transporting to SRS for storage pending final disposition up to 100 kilograms (220 pounds) of plutonium that the United States may accept from at-risk foreign locations as part of the GTRI. A final decision on the acceptance of any particular shipment of plutonium from a foreign country is contingent on confirmation that the material: (1) poses a threat to U.S. national security; (2) is susceptible to being used in an improvised nuclear device; (3) presents a high risk of terrorist threat; (4) has no other reasonable pathway to assure security from theft or diversion; and (5) meets the acceptance criteria of the storage facility at SRS. Acceptance of material also requires adequate storage capacity to accommodate the material at SRS. In the FONSI, DOE determined that the impacts of implementing the proposed action are not significant (DOE 2010a). **Gap material plutonium would be dispositioned along with U.S. surplus plutonium. The disposition of plutonium materials that are recovered through the GTRI program and brought to SRS are analyzed in this SPD Supplemental EIS.”**

K Area Overview/Update, presentation to SRS Citizens Advisory Board, July 28 2015, with photos of plutonium storage in K Area Facility at SRS: http://www.srs.gov/general/outreach/srs-cab/library/meetings/2015/fb/RevisedAllenGunterFinalCABKAreaOverview_%20PresentationRev1%206-2-15.pdf

Covert mission: Plutonium source might be Canada, article in *Ottawa Citizen*, March 30, 2014, on shipment of plutonium from Europe to the Savannah River Site, onboard the UK-flagged Pacific Egret: <http://ottawacitizen.com/news/national/covert-mission-plutonium-source-might-be-canada>

“Global Threat Reduction Initiative” is now NNSA’s Office of Material Management and Minimization (M³): <http://nnsa.energy.gov/aboutus/ourprograms/dnn/m3>

Ramsden Dock Terminal Stakeholder Group (RDTSG), Minutes of 14 December 2015 meeting:
<http://www.pntl.co.uk/wp-content/uploads/2015/12/15th-RDTSG-Minutes-FINAL.pdf>

“Pacific Grebe is currently berthed in Kobe, Japan following the successful completion of the 17th transport of High Level Waste to Japan. The vessel is due to return in Spring 2016.”

Go slow on fast reactors, The Hill, February 3, 2015, article on Monju breeder reactor accident and problems with sodium-cooled plutonium breeder reactors:
<http://thehill.com/blogs/congress-blog/energy-environment/231483-go-slow-on-fast-reactors>

Communication Received from Japan Concerning its Policies Regarding the Management of Plutonium, report to the International Atomic Energy Agency via Information Circular 549, August 28, 2015, indicates a domestic stockpile of about 10 metric tons and 37 metric tons in the U.K. and France:
<https://www.iaea.org/sites/default/files/infirc549a1-18.pdf>

Communication Received from the United Kingdom of Great Britain and Northern Ireland Concerning its Policies Regarding the Management of Plutonium, report to the International Atomic Energy Agency via Information Circular 549, October 8, 2015, indicates a domestic stockpile of about 126 metric tons (including about 23 MT belonging to “foreign bodes,” primarily Japan):
<https://www.iaea.org/sites/default/files/infirc549a8-18.pdf>

Communication Received from France Concerning its Policies Regarding the Management of Plutonium, report to the International Atomic Energy Agency via Information Circular 549, August 28, 2015, indicates a domestic stockpile of about 79 metric tons (including about 17 metric tons belonging to “foreign bodes,” primarily Japan): <https://www.iaea.org/sites/default/files/infirc549a5-19.pdf>

“Fact Sheet: Plutonium Removal from Sweden” [to SRS], White House, March 26 2012:
<https://www.whitehouse.gov/the-press-office/2012/03/26/fact-sheet-plutonium-removal-sweden>

UK Government urged to come clean about secret plan to ship weapons-grade uranium to US, Scotland Herald, 20 December 2015, article on possible shipment from the United Kingdom to the Savannah River Site of Republic of Georgia research reactor fuel containing highly enriched uranium (HEU); US DOE has never explained why the material poses a proliferation risk in the UK – also being done in advance of 2016 Nuclear Security Summit to list amongst non-proliferation “successes” since 2014 summit?:
http://www.heraldscotland.com/news/14157268.UK_Government_urged_to_come_clean_about_secret_plan_to_ship_weapons_grade_uranium_to_US/

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