



Savannah River Site Watch

**Savannah River Site Watch  
Columbia, South Carolina  
For Immediate Release  
November 17, 2016**

**NRC Reviewing Transport of Research Reactor Spent Fuel from Alberta, Canada to SRS; Route from US-Canada Border Approved; More High-Level Nuclear Waste coming in with no Exit Path from SRS**

***SRS Watch Calls for Halt to Incoming Nuclear Waste Until an Exit Plan is Developed and Implemented***

Columbia, SC – The U.S. Nuclear Regulatory Commission (NRC) is now reviewing the transport cask planned to be used for shipment of research reactor spent nuclear fuel from the University of Alberta, Canada to the US Department of Energy’s Savannah River Site (SRS) in South Carolina, according to documents reviewed by Savannah River Site Watch (SRS Watch).

The NRC approved the shipment route for the spent fuel, classified under US law as high-level nuclear waste, from the Alberta-Montana border to SRS on November 9, 2016. If the shipment were to go forward, the spent fuel from a “SLOWPOKE” research reactor at the University of Alberta (U of A) would be taken to the L-Basin storage pool at SRS, with no clear plans for its long-term disposition out of South Carolina.

According to a Canadian Nuclear Safety Commission document from 2013 - see “notes” below - “The U of A Safe Low-Power Kritical Experiment (SLOWPOKE-2) reactor is a small research reactor located in the Dentistry-Pharmacy Building in the U of A campus, in Edmonton, Alberta. The SLOWPOKE-2 reactor has been in operation for 35 years and is used in support research, teaching, neutron activation and isotope production.” The reactor has been fueled with US-origin highly enriched uranium (HEU).

The NRC informed the U.S. Department of Transportation on October 19, 2016 that the shipping cask’s Canadian “certificate of approval” was being reviewed to include “the University of Alberta SLOWPOKE reactor core.” It is believed that the review of the cask and approval of the shipping route were done at the behest of DOE.

NRC’s cask-review schedule indicates approval by March 2017. The shipment to SRS could take place after cask approval and before December 31, 2021, at which time approval for the shipment route is set to expire. DOE indicated in a September 2014 presentation that the shipment from Alberta to SRS could take place in 2018.

The University of Alberta informed the Canadian Nuclear Safety Commission in 2013 that it had met with the DOE’s Global Threat Reduction Initiative (GTRI) – now called the Office of Material Management and Minimization (M<sup>3</sup>) – to discuss conversion of the reactor from using highly-enriched

uranium (HEU) – bomb-grade uranium – to low-enriched uranium (LEU). The core is believed to be enriched to 93% uranium-235, a fissile isotope of uranium that can be used in nuclear power fuel and nuclear bombs. Enrichment of uranium above 20% U-235 is defined as HEU.

It is unclear if the reactor is being converted from use of US-origin HEU to LEU as part of a global initiative to remove bomb-grade uranium from civilian use. It appears that the HEU core of the reactor may be “spent” after years of use and has to be removed.

Shipment of the solid US-origin HEU material to SRS was reviewed in an earlier Environmental Impact Statement. In September 2015, a SLOWPOKE core was shipped from Jamaica to SRS, where it is now stored with no long-term disposition plans. (Shipment from Canada’s Chalk River Laboratories of liquid high-level nuclear waste containing US-origin HEU has never been reviewed in an EIS.)

“While conversion of research reactors from HEU to LEU is warranted from a nuclear non-proliferation perspective, we believe it is prudent to halt to shipment of HEU-bearing waste to SRS until such time as a plan is presented for removal of such waste from the site,” said Tom Clements, director of Savannah River Site Watch, a public interest SRS-oversight organization based in Columbia, SC. “We are concerned that DOE is planning to bring more HEU-related waste to SRS over the coming years, with no plan for their removal from South Carolina and without the public being properly informed about these waste-imports and long-term storage and disposition plans.”

SRS Watch is not aware of any proliferation risks if HEU materials remain in Canada for management and disposal. The shipment of the spent fuel from Alberta to SRS is being undertaken primarily to remove high-level nuclear waste and not for nuclear non-proliferation reasons, according to Clements.

It is believed that several shipments of NRU and NRX reactor spent fuel from the Chalk River Lab in Ontario have recently arrived at SRS.

**Notes:**

*NRC staff report that the NRC’s digital library, ADAMS, will be out of service until noon EDT on November 17, 2016. The first 2 documents below are posted in ADAMS.*

US NRC **“ROUTE APPROVAL APPLICATION (NRC ROUTE NO. 253): SWEETGRASS ENTRANCE STATION TO SAVANNA RIVER SITE,”** November 9, 2016 - hard copy available on request:

<https://adamswebsearch2.nrc.gov/webSearch2/view?AccessionNumber=ML16308A417>

Request by shipper to US NRC to review transport cask for SLOWPOKE reactor spent fuel **“APPLICATION FOR F-257 (SERIAL NO. 2) TRANSPORTION PACKAGE–SCHEDULED FOR REVIEW,”** October 19, 2016 – text of letter available on request:

<https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML16293A283>

Information on SLOWPOKE reactor at University of Alberta:

<https://sites.ualberta.ca/~slowpoke/>

Canadian Nuclear Safety Commission proceedings, May 15, 2013, on “**Application to Renew the Non-Power Reactor Operating Licence for the SLOWPOKE-2 reactor at the University of Alberta**”:

<http://www.suretenucleaire.gc.ca/eng/the-commission/pdf/2013-05-15-Decision-UniversityAlberta-SLOWPOKE-2-Reactor-e-edocs4159955.pdf>

DOE document with schedule for import of spent fuel to SRS: “**THE SIGNIFICANCE OF NUCLEAR MATERIALS DISPOSITION PATHWAYS TO ACHIEVE INTERNATIONAL NONPROLIFERATION OBJECTIVES,**” September 4, 2014, at Eighth Annual RadWaste Summit – possibly removed from the web but linked on SRS Watch website:

[http://www.srswatch.org/uploads/2/7/5/8/27584045/import\\_to\\_srs\\_of\\_spent\\_fuel\\_doe\\_schedule\\_september\\_4\\_2014.pdf](http://www.srswatch.org/uploads/2/7/5/8/27584045/import_to_srs_of_spent_fuel_doe_schedule_september_4_2014.pdf)

DOE’s National Nuclear Security Administration news release on SLOWPOKE reactor core in Jamaica being sent to SRS: “**NNSA Removes U.S.-Origin HEU from Jamaica, Makes the Caribbean HEU Free,**” September 22, 2015:

<https://nnsa.energy.gov/mediaroom/pressreleases/nnsa-removes-u.s.-origin-heu-jamaica-makes-caribbean-heu-free>

Information on SLOWPOKE (Safe Low-Power Critical Experiment) reactors in Canada:

<http://teachnuclear.ca/all-things-nuclear/canadas-nuclear-history/nuclear-research/slowpoke-reactors/>  
& <http://www.wmsym.org/archives/2014/papers/14170.pdf>

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