

**Summary of CNSC's Technical Assessment Report and "Environmental Assessment"
December 2014 – Comments to be submitted by February 9th, 2015**

The CNSC documents provide basic information about the proposed shipments of highly enriched uranium nitrate liquid (HEUNL) from Chalk River Ontario to the Savannah River National Laboratory in South Carolina, including:

- HEU is being “repatriated” under the Global Threat Reduction Initiative; broad international effort to consolidate HEU inventories, due to weapons proliferation concerns
- In March 2012, announced that Canada and U.S. would “expand efforts” to return HEU materials, including those in liquid form
- HEU is uranium that has a concentration of U-235 greater than 20 weight percent; the HEUNL material consists of a solution of highly enriched uranyl nitrate, various other nitrates and water
- NAC International has modified their shipment package for solid high level radioactive wastes to include inner containers for the liquid wastes
- Each of the four containers will carry 58.1 litres of HEUNL; the CNSC assessed heat load based on a heat generation rate of 0.05 W/L and assumed a bounding heat load of 12.88 W for the liquid content
- Each inner container will be 225 kilograms; the maximum weight of the NAC-LWT package, modified to include the inner containers filled with HEU, will be 22,415 kilograms
- The revised version of the already certified (for solid nuclear wastes) certificate application must be approved by the U.S. and Canada, then applications must be made for a transport licence and an export license

The application under review is for an amendment to the transport package. The transport package was designed and has been used for solid radioactive, and must be amended if it is to be used for the transport of liquid waste. The package is being amended by adding four inner containers. According to the CNSC "*the design of the inner containers is proprietary and can therefore not be shown*". The Technical Assessment Report and the Environmental Assessment Information Report issued by the CNSC for public comment do not provide any information about the design or the materials or methods used to manufacture the added inner containers.

The CNSC, in their review and reports:

- Rationalized that “Removing existing HEU material from Canada and reprocessing it for peaceful purposes promotes non-proliferation and security” but have not done a risk assessment to compare those purported benefits to the risks resulting from the proposed transport and so increased availability of the materials to rogue players while in transit
- Relied on material provided by NAC International, including NAC’s risk analysis and dose estimates
- Provided no information about security measures to safeguard the shipments
- Stated that the “design of the inner containers is proprietary and can therefore not be shown in this report”; the report provides no information about the design or materials to be utilized, or the basis for their assessment
- Used “bounding” approach in their assessment of the release of radionuclides to the environment, and assessing key safety aspects such as temperature and water depth in accident scenarios

- Confirmed that criticality is a safety concern – the highly enriched uranium is able to sustain a nuclear chain reaction – but concluded that even accident conditions do “not raise criticality concerns”
- Included a purported Environmental Assessment report in order to meet a commitment made at a public meeting of the Commission in May 2013, but did not include the key elements of environmental assessments, namely an analysis of need, alternatives to the project, and alternative means of carrying out the project
- Stated that shipment routes are not made public and are classified as “secret”
- Acknowledged that even under “normal” (no accident) conditions residents along the route and drivers and passengers sharing the road with the HEUNL shipments will receive a radioactive dose; the CNSC argues that the exposure rates will be “below regulatory limits”
- Confirmed that during a “transportation emergency” it is the province or municipal government that is the “responsible authority” and will be the first responders