Flow Diagram for Recycling of Used CANDU Fuel to create Start-Up Fuel for Fast-Neutron Reactors

(annual through-put to supply TRUs for 1 reactor start-up plus first fuel shuffle and replacement of 1/3 of reactor load)



Note 1:The TRU concentrator comprises processes like those used by Cameco in large commercial preparations of uranium fuel for CANDU reactors
and for light-water reactors worldwide.Electrolytic Separation (pyroprocessing) is a relatively common metallurgical procedure. It was adapted for used fuel separation by the
Argonne National Laboratories and is constantly still being upgraded there currently.

* Note 2: Volatile fission products are captured during processing and stored. Gaseous nitrogen oxides are recovered and recycled as nitric acid. Salts from reduction and electrolytic refinement are recovered and reused.