

# International Conference on Radioactive Waste Management: Solutions for a Sustainable Future (CN-294)



Contribution ID: 112

Type: POSTER

## Liquid radioactive waste treatment –Volume reduction in solution that containing uranyl nitrate

The purpose of this work was to develop a process of concentration and precipitation of Uranium contained in radioactive nitric liquid waste, in order to improve the conditions of conditioning and storage of these wastes.

Lab trials were performed using samples of radioactive nitric liquid waste that contain Natural Uranium, with a concentration of 2 [g/L], which were concentrated in a solid phase by the method of metal ions precipitation, using as reactive the Amonium Hydroxide. This precipitation, filtration and drying reduces the volume until 85%, and also transform the liquid waste in a solid material that will be stored in physical and radiological protection conditions. On the other hand, the treated liquid is radioactively decontaminated, with an efficiency over than 94.5%.

The results of these lab trials are the basis for scaling the process for treating a bigger volume of radioactive liquid waste, this operation will allow the decontamination of radioactive sulfated liquid waste that contain Uranium.

### Affiliation

Chilean Nuclear Energy Commission

### Speaker's title

Mr

**Primary author:** MENDOZA, Marcelo (Comisión Chilena Energía Nuclear)

**Co-author:** Ms PEREIRA, Vivian (Comisión Chilena Energía Nuclear)

**Presenter:** MENDOZA, Marcelo (Comisión Chilena Energía Nuclear)

**Session Classification:** Solutions for Specific Wastes

**Track Classification:** 3. Solutions for Specific Wastes