

**3<sup>rd</sup> EAN<sub>NORM</sub> Workshop, Dresden**  
**23<sup>rd</sup>-25<sup>th</sup> November 2010**

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Organisation:	Tantalum-Niobium International Study Center (T.I.C.)
Presentation Title:	Exposure scenarios in tantalum raw material transport
Abstract:	<p>Tantalum is a non-radioactive metal whose raw material sources are chiefly the mineral tantalite and the tin smelting by-product known as tin slag. These two raw materials contain varying levels of natural thorium and uranium, mostly in the range 5-50 Bq/g Th(nat) and U(nat). International transport is required as Class 7 radioactive material to industries that can separate the tantalum metal from the thorium and uranium waste, with transport occurring from/through/to European countries including <i>i.a.</i> Belgium, Estonia, France, Germany, Netherlands and Russia.</p> <p>The T.I.C. commissioned a study into the transport of tantalum raw materials which included a variety of exposure scenarios: four types of transport workers, a facility worker and two scenarios for the public. Dose rates around transport containers were measured and compared with radioactivity concentrations and modelled gamma radiation doses.</p> <p>This study was contributed to the IAEA CRP on NORM and on the basis of a 0.3 mSv y<sup>-1</sup> dose constraint the study proposes a higher radioactivity concentration exemption limit for transport.</p>