

An Overview of the International Transport of Uranium Concentrates

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Introduction

- **Uranium ore concentrates transported internationally by road, rail and sea, from producers to converters.**
 - **Use of open head steel drums**
 - **Dry 20' ISO sea containers**
 - **Multimodal conditions of transports**



WNTI Initiatives

- **World Nuclear Transport Institute (WNTI)**
 - **49 industry members**
 - **Represent collective interest of the radioactive materials transport industry sector**
- **Uranium concentrates transports**
 - **Increased and diversified demand**
 - **New mine development (localization)**
 - **Denial and Delay**
- **Launched the WNTI Uranium Concentrate Industry task force in 2005**

UC Industry Task Force

- **Main objectives**
 - **Consolidate current industry practices**
 - **Sustain worldwide transport of uranium concentrates**
- **Contributors**
 - **Mines, Converters, Transporters, Utilities**
- **Task**
 - **Collect current industry best practices**
 - **Discuss jointly industry experience**
 - **Publish industries best practices information paper**

Background

- **Number of issues were raised and discussed during the 2004 and 2005.**
- **Five WNTI task group workshops were held over the 2006 to 2007 period.**
- **Workshop resulted in the preparation of an Information Paper**



UCTF – Information Paper

- Why do we need this good practices information to be shared if the packaging and loading is already being handled by the converters?
- First reason
 - Shipping line and other stakeholder concerns about consistency and clarity, plus limitations of volume and segregation



UCTF – Information Paper

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- **Second reason**
 - Requirements for design of package restraint in ISO containers plus phytosanitary convention
 - Impact on loading plans.



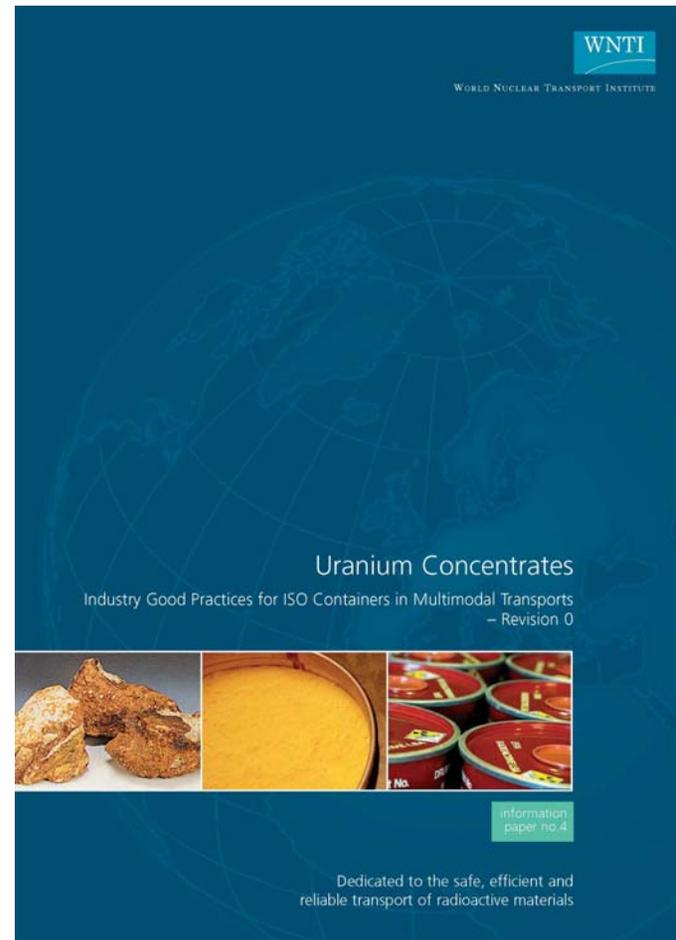
UCTF – Information Paper

- **Third reason**
 - **Critical aspect of consistent approach to container cleanliness when “free” released back to ISO container owners**



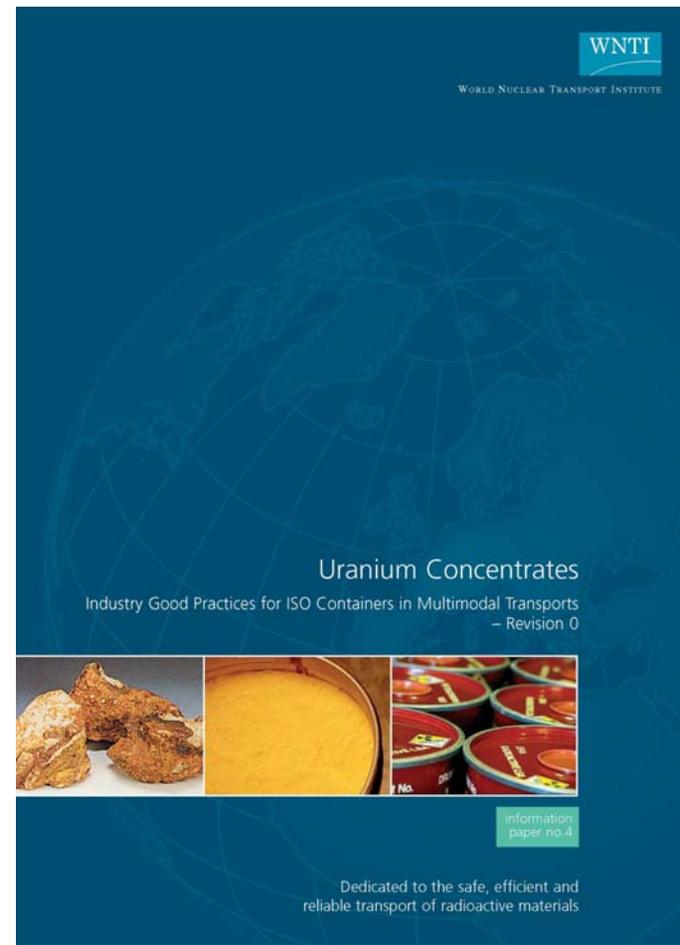
UCTF – First Results

- Two years of work to achieve the goal
- “Uranium Concentrates Industry Good Practices for ISO Containers in Multimodal Transports”
 - Published as an information paper in February 2008
 - Available to WNTI Members and Non- Members



UCTF – First Results

- **Scope of paper includes:**
 - **Drums**
 - **ISO containers**
 - **Loading & Securing**
 - **ISO containers release**
- **UCTF Continuous effort**
 - **Apply as technical specification**
 - **Industrially accepted**
 - **Involve utilities for its application**



UCTF Further Steps

- **To go on sharing these practices within industry and others stakeholders**
- **Current areas of interest being developed by the UC Industry Task Force**
 - **Information papers**
 - **Emergency Response Guidance for UC**
 - **Radiological Measurement and Control for Loading ISO containers**
 - **Transport of UC samples**
 - **Good Practice for securing of drums in ISO containers**

UCTF Further Steps

- **Will be shortly publishing a UC Fact Sheet**
- **Other packaging technologies**
 - **Funding a research paper on alternative powder packaging**
 - **Industry growth**
 - **Overall logistical scheme**
- **The UC Task Force meets semi-annually**
 - **next meeting: London in December 2009**

Conclusions

- **UC Industry Task Force is a dynamic group which succeeded in publishing the information paper**
- **Continuous efforts are required to implement the information**
- **New subjects of interest are being studied: New industry contributors are welcome.**