

Problems of disposal of NORM residues – the view of the waste management industry

***Workshop European ALARA Network for NORM. 5. Session: Transport and NORM disposal in Europe,
Dorint Novotel Dresden 22. November 2007***

Dr. T.U. Probst, bvse

Contents

- ***The bvse e.V.***
- *Disposal of NORM residues*
- *Problems & Solutions*

The bvse e.V.

- ***bvse e.V. – the Federal German Association on Recycling and Waste Management:***
 - ***bvse – a leading specialist and industry association, NGO,***
 - ***Spezialised divisions in waste management, e.g. paper, plastics, glass, scrap and metals, waste derived fuel, toxic and hazardous wastes,***
 - ***Lobbying and public information***
 - ***Technical guidance and expert knowledge for members***
 - ***Structure of the member companies,***
 - ***620 mainly medium-sized companies of all types of recycling,***
 - ***A total of 50.000 employees,***
 - ***Annual turn over rate of 10 billions Euro,***
 - ***Participation in EU networks, e.g. ERPA, CEPI,***
 - ***Participation in global networks, e.g. BIR,***
 - ***www.bvse.de.***

The bvse e.V.

- ***bvse - recyconsult GmbH:***
 - *Meetings, congresses, symposia, fairs*
 - *Technical guidance and expert knowledge for members by training and schooling*
 - *Publications, e.g. monthly journals, press releases, broadcasting*
- ***bvse - Entsorgungsgemeinschaft:***
 - *Certification board, DIN and ISO certifications,*
 - *Technical guidance and expert knowledge for members by schooling and training*
 - *Supervising*

Contents

- *The bvse e.V.*
- ***Disposal of NORM residues***
- *Problems & Solutions*

Disposal of NORM residues

Low-level waste materials:

- ***Contaminations on ferrous scraps and non-ferrous scrap by soils.***
- ***Scales, residues, sludge and waste water of mineral oil exploration, gas purification and carbon pyrolysis.***
- ***Residues, sludge and waste water of ore exploration, e.g. Al, Nb, Ta, Cu, Sn, Zn, REE, Ba (BaSO₄), Sr (SrSO₄), Ca (CaCO₃), Si (SiO₂), Pb (PbS, PbO).***
- ***Scales, powders, dusts of thermal processes.***
- ***Glass processing.***
- ***Chemical and mechanical surface processing of ferrous scraps and non-ferrous scrap***
- ***Phosphates and gypsum.***
- ***Mining materials.***
- ***Inorganic chemical processes***
- ***Demolition waste.***

Disposal of NORM residues

The European Waste Catalogue:

- ***01 mining: 010101, 010102.***
- ***05 mineral oil exploration, gas purification and carbon pyrolysis***
 - ***0501 raffination of mineral oil***
 - ***0506 carbon pyrolysis***
 - ***0507 gas purification and gas shipping***
- ***10 thermal processes, i.e. 1001 to 1013***
- ***11 chemical surface processing, i.e. 1101, 1102, 1105***
- ***12 mechanical surface processing, i.e. 1201, 1203***
- ***13 mineral oils and fuels,***
- ***16 other waste streams***
- ***17 demolition waste***
- ***19 waste water treatment***

Contents

- *The bvse e.V.*
- *Disposal of NORM residues*
- ***Problems & Solutions***

Problems & Solutions

Problems_1:

- **In general and old problems:**
 - **yet, focus on higher levels of radioactivity,**
 - **by authorities, by scrap dealers**
 - **measurement techniques**
 - **well known waste materials of higher levels of radioactivity, e.g. scraps, WEEE of clinical and laboratory equipment, residues, sludges, soils, mining materials, ores, demolition waste,**
 - **since 1980 to 2000, 75 radioactive hazards in ferrous scrap processing**
 - **increasing amounts of high-level waste for reasons of demolition of nuclear plants and nuclear equipment,**
 - **increasing amounts of high-level waste through global shipment.**

Problems & Solutions

Problems_2:

- **New problems on NORM and TENORM (< 0.2 Bq/g, 0.5 Bq/g):**
 - **lack of expert knowledge on NORM waste,**
 - **by authorities,**
 - **by companies of waste management,**
 - **minor experiences with handling of NORM waste,**
 - **detection of low-level radioactivity,**
 - **sampling of natural radioactivity,**
 - **as surface contamination,**
 - **on large and complex waste materials, e.g. demolition waste, scrap,**
 - **measurement of low-level radioactivity,**
 - **ample possibilities of legal and semi-legal disposal,**
 - **yet, comparatively small flow streams within the waste flows (< 2000 t/a),**
 - **high cost level, i.e. equipment and staff,**
 - **legislation work and forms,**
 - **minor mass flows of NORM (< 2000 t/a),**
 - **increasing amounts of NORM waste.**

Problems & Solutions

Solutions on NORM waste and residues:

- *participation in networks,*
- *participation in meetings, congresses, symposia,*
- *contact to external specialists and companies,*
- *buy in of external knowledge on handling and on management of NORM and TENORM residues,*
- *contact to authorities,*
- *information and training of consultants,*
- ***start up and business opportunities for member companies,***
- *information and training of member companies, e.g. experienced in hazardous waste management.*



Questions? Criticism? Approval?

***... to Thomas Probst, bvse, Hohe Str. 73, 53119 Bonn, Germany
T: 0049/228/98849-20, F: 0049/228/98849-20, probst@bvse.de***