EM International Interactions and Programs

Salt Repository Research
Actinide and Microbial Studies in Brine

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Actinide and Brine Chemistry in a Salt Repository Workshops (ABC-Salt I, II, III, and IV)

- Jointly organized by INE and LANL
- US-German Focus (but not limited to this)
- ABC-Salt V is planned for NM site in 2017

Announcement: 14.-16. April 2015, Heidelberg, Germany

- **ABC-Salt (IV)** (14.+15.)
  Workshop on Actinide-Brine-Chemistry co-organized by KIT-INE and LANL-CO
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- **HiTAC (II)** (16.)
  Workshop on High Temperature Aqueous Chemistry, co-organized by University Heidelberg and KIT-INE. *contacts: petra.panak@kit.edu, andrej.skerencak@kit.edu; marcus.altmaier@kit.edu*

Waste Isolation Pilot Plant
www.wipp.energy.gov

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NEA Thermodynamic Database (TDB) Interactions

- **Multiple interactions on many levels – this links to many EM site and repository issues - also strong NE presence/need**
- **Pitzer State of the Art Report is in Progress**
  - **Strong US-German participation**
  - **Initiated in April 2015**
  - **1st draft complete by the end of 2016**
  - **Issued/completed in 2017**

NEA Salt Club Activities

Two EM Activities:

1) **Pitzer model development Working Group**
   - **US-German lead (LANL and INE)**
   - **Still under construction**

2) **Microbial Interactions in a Salt Repository**
   - **LANL and HZDR lead**
   - **Three "Tasks" or goals**
     a) **NEA Salt Club report – compendium of what is known**
     b) **NEA Salt Repository Microbial strategy document – safety case approach**
     c) **Literature Publication/review**

Technical Research Collaborations

Institute for Nuclear Waste Management (INE)

- Actinide borate chemistry
- Np(IV) and U(IV) as an analog for An(IV) – funded through a DOE EM HQ proposal – provides a shared postdoc
- Actinide Pitzer measurement and actinide-microbial studies – future directions

Rossendorf Research Center (HZDR)

- Microbiology indigenous to Salt
- Multiple coordination on research
- Student/postdoc lab visits