Agenda

U.S. – Japan Roundtable on Rare Earth Elements Research and Development for Clean Energy Technologies

Thursday-Friday, November 18-19, 2010
Building 453, Black Diamond Conference Room 1012

U.S. Department of Energy
Lawrence Livermore National Laboratory

THURSDAY, November 18, 2010

7:30 **Badging Westgate Badge Office**
Met by Evelyn Laurant

8:30 – 9:00 **Welcome and Introduction to the Roundtable**
Al Ramponi, Lawrence Livermore National Laboratory
Kay Thompson and Diana Bauer, Department of Energy

9:00 – 9:30 **A Brief Overview of the Rare Earths Crisis**
Karl Gschneidner, Ames Laboratory
Discussant: Roderick Eggert, Colorado School of Mines

9:30 – 10:45 **Geological Availability of Rare Earth Elements**
Session Chair: Bill Bourcier, Lawrence Livermore National Laboratory
Keith Long, U.S. Geological Survey; *New Sources of Primary REE Production: When and at What Cost*
Tetsuichi Takagi, National Institute of Advanced Industrial Science and Technology, Japan
Bradley Van Gosen, U.S. Geological Survey; *The Principal Rare Earth Elements Deposits of the United States*

10:45 – 11:00 **Break**

11:00 – 12:30 **Recovery, Extraction and Separation of REE from Mineral Ores, Part I**
Session Chair: Alex King, Ames Laboratory
Brock O'Kelley, Molycorp Minerals, LLC
Patrick Taylor and Corby Anderson, Colorado School of Mines; *Mineral Processing, Extraction and Refining of Rare Earth Minerals*
Junji Shibata, Kansai University; *Separation and Purification Technology for REE*

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12:30 – 1:30 **Lunch**
Group to walk over to Central Cafeteria

1:30 – 2:45 **Recovery, Extraction and Separation of REE from Mineral Ores, Part II**
Session Chair: Christian Mailhiot, Lawrence Livermore National Laboratory
Eric Peterson, Idaho National Laboratory (INL); *INL Separations and Lanthanide Chemistry Activities*
John Hryn, Argonne National Laboratory; *Solvent Extraction for Separation of REE*
Patrick Huang, Lawrence Livermore National Laboratory; *Computational Approaches to f-electron Chemistry*
Discussant: Suresh Baskaran, Pacific Northwest National Laboratory

2:45 – 3:00 **Break**

3:00 – 4:30 **Improved Manufacturing and Use of REE**
Session Chair: Mark Rigali, Sandia National Laboratories
John Hryn, Argonne National Laboratory; *Improved Manufacturing and Use of REE*
Karl Gschneidner, Ames Laboratory; *A New, Energy Efficient Green Process for Preparing Commercial Grade Rare Earth Metals Including Nd and La*
Discussant: Mike McElfresh, National Security Technologies, LLC
Discussant: Suresh Baskaran, Pacific Northwest National Laboratory

4:30 **Adjourn for the day**

5:30 **Dinner Terra Mia restaurant, 4040 East Avenue, Livermore**
By registration

FRIDAY, November 19, 2010

8:30 – 9:00 **Overview of New Energy and Industrial Technology Development Organization Effort**
Toru Nakayama, New Energy and Industrial Technology Development Organization

9:00 – 9:30 **Advanced Energy Research Projects Agency Perspective on the Rare Earth Materials Issue**
Mark Johnson, Advanced Energy Research Projects Agency

9:30 – 10:30 **Alternatives and Substitutes for REE Technologies**
Co-Chairs: Roderick Eggert, Colorado School of Mines and Koki Hanzawa, New Energy and Industrial Technology Development Organization
Tomoyuki Ogawa, Tohoku University; *Development of High Performance Magnetic Materials with Rare Earth Element (REE) Less/Free*
Bill McCallum, Ames Laboratory; *Magnets*

Kimihiro Ozaki, National Institute of Advanced Industrial Science and Technology, Japan; *Research and Development of Dy-free Rare Earth Magnets as Alternatives to Nd-Fe-B Magnets*

10:30 – 10:45 Break – Group Photo

10:45 – 12:30 Alternatives and Substitutes for REE Technologies, cont'd

Atsushi Muramatsu, Tohoku University; *REE Engineering Overview and Cerium: its Alternative and/or Curtailment Technologies to Conventional Method*

John Hryn, Argonne National Laboratory; *Alternatives and Substitutes for REE*

Momoji Kubo, Tohoku University; *Computational Chemistry as a Powerful Tool for the Design of the REE Alternative and/or Curtailment Technologies and the Integrated Application of the Experiments and Simulations to Cerium for the Mechanical Polishing*

Yutaka Tai, National Institute of Advanced Industrial Science and Technology, Japan; *Ceria in Automotive Catalysts*

12:30 – 1:30 Lunch

Group to walk to Central Cafeteria

1:30 – 3:00 Summarize Findings and Recommendations of Roundtable

3:00 Closing Remarks and Adjourn