



## **Battelle and Rare Earth Salts on Department of Energy Project**

*COLUMBUS, OH and BEATRICE, NE (October 17, 2017)—Battelle is teaming with Rare Earth Salts (RES) on a potentially groundbreaking project for the United States Department of Energy’s National Energy Technology Laboratory.*

*The project, Recovery of High Purity Rare Earth Elements (REEs) from Coal Ash via a Novel Separations Process, will produce valuable Rare Earth Oxides from coal fly ash, converting them to the high purities necessary for a saleable product.*

*The two organizations will advance the development of REE processing by combining RES novel separation and purification process and Battelle’s Acid Digestion Process. Under this project they will validate that they can generate environmentally benign and economically sustainable REE products from domestic coal ash sources at purities above 90 percent.*

*The total funding for the project is about \$875,000.*

*Battelle’s Acid Digestion Process selectively leaches REE from the coal fly ash. What is unique is that the chemicals are almost entirely recycled instead of being lost to leaching during the process. This approach dramatically reduces costs, allows the exclusion of key contaminants, and provides a concentrated source of REEs along with other co-products. This process was originally used by Battelle to sustainably and safely disarm expired artillery munitions.*

*“This is an important project to prove the viability of this approach,” said Rick Peterson, Battelle Research Scientist. “The need to recover Rare Earth Elements in the United States is of national importance, since so much of the capacity to produce these critical materials lies outside the U.S.”*

*RES’ proprietary separation technology is cost efficient and environmentally friendly. The Company recycles its manufacturing inputs so virtually no waste is created, making RES the most sustainable producer of rare earth oxides globally. RES began commercial production of rare earth oxides at its Nebraska-based facility earlier this year with a standard purity of 99.9%.*

*“Our technology positions us to be a primary producer of consistent, low-cost, rare earth oxides to Western economies,” said Cameron Davies, Chief Executive Officer of RES. “As we seek additional sources of domestic rare earth feedstock, coal fly ash presents a promising opportunity. Battelle is a world-class partner, and we look forward to working together to meet the objectives of the U.S. Department of Energy.”*

### **About Battelle**

*Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and*



## RARE EARTH SALTS

---

manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

### **About Rare Earth Salts**

Rare Earth Salts is a leading materials technology company and producer of rare earth oxides. The Company has developed a patent pending industrial technology proven to efficiently and economically separate and refine all 16 Rare Earth Elements to high purity. The process is environmentally friendly and demonstrates a significant cost advantage versus standard processing. For more information visit: [www.rareearthsalts.com](http://www.rareearthsalts.com).

### **Media Contacts**

For more information contact:

#### **Battelle:**

Katy Delaney  
(614)424-7208  
[delaneyk@battelle.org](mailto:delaneyk@battelle.org)

T.R. Massey  
(614) 424-5544  
[masseytr@battelle.org](mailto:masseytr@battelle.org)

#### **Rare Earth Salts:**

Cameron Davies  
(416) 420-2861  
[cameron.davies@rareearthsalts.com](mailto:cameron.davies@rareearthsalts.com)