

## Brackish Groundwater National Desalination Research Facility (BGNDRF) Newsletter



**From the Manager:** We are pleased to present the third issue of our periodic newsletter. It is designed to be a brief, information-filled page that will be of interest to our customers and friends. Feedback is welcome. Please contact me at (575) 443-6553 or email me at: [rshaw@usbr.gov](mailto:rshaw@usbr.gov).  
Kind Regards, Randy Shaw, PE

### Highlights of Current Research

**Zero Discharge Desalination (ZDD):** University of Texas at El Paso (UTEP) and Veolia Water Solutions & Technologies have been demonstrating and commercializing the ZDD technology sponsored by the Desalination Water Purification Research (DWPR) program. The ZDD system is comprised of a nanofiltration (NF) system and a unique variation of electrodialysis called electrodialysis metathesis (EDM). Current testing has focused on the recovery of NaCl from the EDM concentrate streams for use in the EDM itself. NaCl is the major consumable of the ZDD process and is a cost driver for desalination operations. The ZDD system has achieved up to 98% recovery using a blend of two BGNDRF well waters intended to simulate the City of Alamogordo's brackish water supply.

**NMSU Renewable Energy Desalination Student Research:** Cal Poly San Luis Obispo students Chris Pittner and Yakov Suvorov and New Mexico State University (NMSU) student Rachel Wood are spending eight weeks this summer testing four renewable energy pilot scale units that were in the 2013 NMSU International Environmental Design Contest. Their goal is to compare and optimize performance of each unit. The testing program is funded under a cooperative agreement between the NMSU Institute for Energy and the Environment (IEE) and the Bureau of Reclamation.

**More Information about BGNDRF:**  
<http://www.usbr.gov/research/AWT/BGNDRF/index.html>

### Up-Coming at BGNDRF

**EDR & RO Power Consumption Research (NMSU):** Late summer 2013.

**EDR Segmented Electrode Research (NMSU):** Fall 2013.

**Radial Deionization Produced Water Testing (Danlin Industries):** Fall 2013.

**Desalination Water Purification Research (DWPR) funded Project(s):** Late 2013.

**Ion Exchange "Knew Process" Pilot Testing (Trailblazer Tech. S.A.):** Spring 2014.

### OTHER NEWS

**BGNDRF Received the first place DOE 2012 Better Building Federal Award for Energy Conservation on July 12, 2013**



From left to right: Randy Shaw, BGNDRF Facility Manager, Steve Holland, BGNDRF Electronic Technician, Dr. Timothy Unruh, Director of FEMP, U.S. Senator Martin Heinrich, NM, Kevin Price, Retired Reclamation Desal. Research Coordinator