

## Member Requests for the Record

### **The Honorable Michael C. Burgess**

The Department of Energy's FY 2014 Congressional Budget Request Highlights shows that after "adjustments," the request for the Office of Fossil Energy Research and Development is increased by \$83.5 million. Please explain what "adjustments" refers to.

A: In the FY 2012 Appropriations Act, Congress rescinded \$187 million from the Fossil Energy R&D budget, reflected in the "adjustments" row of the budget request. The adjustment listed in the FY 2014 column of the budget request represents the proposed use \$8.7 million in prior-year unobligated balances.

### **The Honorable Lee Terry**

Q: During the hearing, you mentioned that the Department is conducting research regarding new materials for natural gas vehicle storage tanks to increase capacity. Which office is conducting this research, and how much money has been allocated for it?

A: (Please see Insert 1 sent to Chairman Whitfield on September 26, 2013)

### **The Honorable Cory Gardner**

Please provide an update on the use of ESPCs by the Department of Energy.

A: (Please see Insert 3 sent to Chairman Whitfield on September 26, 2013)

### **The Honorable Gene Green**

The Administration is recommending a 37.9 percent decrease in smart grid funding. Is that because we are moving these activities elsewhere or are they truly reducing the activities for smart grid?

A: Modernizing the grid is a crucial part of the Department of Energy's mission. While the specific Smart Grid program funding line shows a decrease in the FY 2014 request, the Office of Electricity Delivery and Energy Reliability's (OE) proposed Electricity Systems Hub and increases to other programs that also support grid modernization concepts and strategies. Moreover, the request continues to build upon the \$4.5 billion invested by the American Recovery and Reinvestment Act of 2009 (ARRA), which significantly accelerated the development and deployment of smart grid technologies. The FY 2014 request for the Smart Grid program supports an increased emphasis on microgrids, which are localized grids that have the ability to operate autonomously from the traditional electric grid in an emergency outage. Microgrids can enhance the reliability, resiliency, and fast recovery of the distribution system.

**The Honorable Michael F. Doyle**

Q: In light of your support for natural gas, what are your plans for ensuring the continued success of the SECA program to ensure we develop technologies that make the most efficient use of that fuel?

A: The Office of Fossil Energy (FE) established the Solid State Energy Conversion Alliance (SECA) in 1999 to develop low-cost, environmentally-friendly high temperature (~800 °C) solid oxide fuel cell (SOFC) technology.

At the time of its founding, SECA was part of the natural gas program, with an emphasis on distributed generation applications. The SECA approach was mass customization of a common module that could address diverse markets – stationary power generation, military applications, and the transportation sector (e.g., auxiliary power units for Class 8 trucks).

Later, the SECA program transitioned into NETL's Strategic Center for Coal, with an emphasis on coal-fueled central station generation with carbon capture. OMB targets were established for stack and system cost to be met in 2010 at an assumed high volume production rate; these targets, along with performance metrics, were met on-time by the Industry Teams.

The Program has shown significant progress towards commercialization; stack cost has been reduced by a factor of ten to \$175/kw, stack size increased by a factor of twenty-five, and the rate at which cells degrade has been reduced by a factor of 10 to <1.0% per 1,000 hours. It has developed technology that is fuel flexible and, as such, is directly applicable to near-term deployment in MWe-class natural gas-fueled distributed generation (DG) applications that will establish the technology foundation for longer-term central power stations, both natural gas and coal. The Program will continue to address technical (performance, reliability, durability, and high-volume manufacturing) and cost issues with the goal of widespread acceptance of the technology for commercial use.