

# Presidio NAS<sup>®</sup> Battery Project

## Facts at a Glance



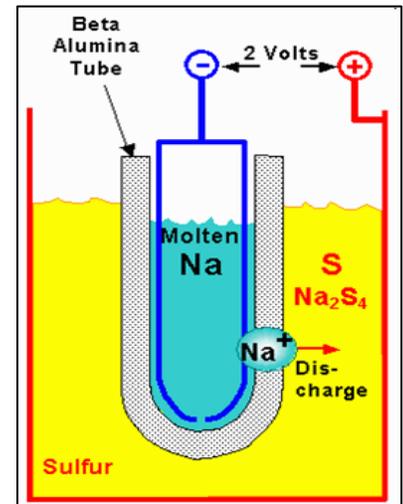
### Project Overview

In 2010, one of the oldest cities in the United States will be benefiting from one of the world's newest technology developments. Electric Transmission Texas, LLC (ETT) is working to complete the installation of a state-of-the-art, sodium-sulfur 4-megawatt NAS<sup>®</sup> battery system, which will be installed in Presidio, Texas. ETT is a joint venture between subsidiaries of American Electric Power (NYSE: AEP) and MidAmerican Energy Holdings Company (MidAmerican).

The NAS battery system will be the first in Texas and the largest in the United States and represents part of an approximately \$70 million overall commitment by ETT to improve transmission reliability in Presidio and surrounding areas.

The battery system, along with construction of the Gonzales substation, is currently scheduled to be completed by first quarter 2010 in time for summer peak usage. Cost of the battery system and substation is estimated at approximately \$25 million. A 60-mile, 69-kilovolt transmission line from Marfa to Presidio is targeted for completion by 2012 with an estimated cost of approximately \$45 million.

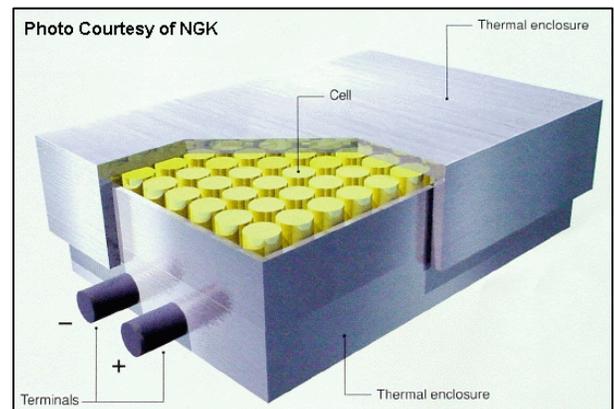
The battery modules were transported by ship from NGK-Locke, Inc. in Japan and delivered to the Port of Long Beach in December 2009. Twenty-four trucks were then used to carry the 80 modules and ancillary equipment from California to Marfa, Texas, where they were stored until construction of the concrete building that will house the battery system was completed. The modules were moved to Presidio in February, and installation activities began at that time.



### Additional Background

The NAS battery system uses sodium-sulfur battery technology. This technology proposed by ETT for Presidio will provide the following benefits:

- Due to its quick response, the battery system will address voltage fluctuations and momentary outages.
- In the event of an outage on the radial transmission line providing power to Presidio, the battery system can supply four megawatts of uninterrupted power for up to eight hours.
- The battery system will allow Presidio's electrical load to receive uninterrupted power from Comisión Federal de Electricidad (CFE) during emergency situations.
- The battery system will allow for maintenance on the new transmission line being built to from Marfa to Presidio without loss of electric service.



AEP pioneered the use of the NAS battery in the United States. Following testing at its Dolan Technology Center near Columbus, Ohio, AEP became the first U.S. company to deploy NAS batteries in 2002 when it installed and operated a demonstration unit in Gahanna, Ohio. In 2006, AEP installed a 1.2-megawatt stationary NAS battery near Charleston, W.Va. In 2008, AEP installed three, 2-megawatt NAS batteries: one in Churubusco, Ind.; one in Balls Gap, W.Va.; and one in Bluffton, Ohio.