

# AES beginning to move into energy storage

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By Steve Muller

AES Corp. is looking at energy storage as a potential new area of growth. The company believes that energy storage can leverage its global platform of 130 power plants operating in 29 countries.

Initially, AES is pursuing energy storage to supply ancillary services to the grid. After sufficient experience is gained regarding technology and regulatory issues, AES could expand the use of energy storage to the integration of renewable energy into the grid.

"We have had other initiatives in the past where we have looked at our platform and said, 'How can we leverage this?'" Chris Shelton, president of AES subsidiary AES Energy Storage LLC, said in an interview June 2.

He said that AES has a unique perspective due to the breadth of its platform, the diversity of its generation technologies and its experience in different market structures.

"That diversity provides a lot of different opportunity areas to apply technology," he said. "We can find things that other utilities might see as marginal in terms of potential areas of business."

However, he stressed that AES was approaching the deployment of energy storage technology in a very measured way.

"This is not an established area of growth for us," he said. "We're focused on the things we think matter to the long-term viability of growing a business in this area."

## AES is in the market development phase now.

In addition, AES Director of External Communications Meghan Dotter said the recent financial market uncertainty has caused AES to re-examine its development pipeline to concentrate on "select target opportunities to grow our business."

## Energy storage applications

AES is investigating two different business models for energy storage. One is ancillary services, and the other is integration of renewable power on the systems served by AES.

Shelton said AES already knows the ancillary services market well. "We will have a base of knowledge around energy storage technologies that we can apply more effectively in the renewables space," he said. "As we learn more about the technology, we can start to move into new the area of renewables integration."

He said market participants and regulators are still working out how energy storage systems interact with existing ancillary services markets.

"I think there are still a fair number of impediments around the legacy of the generating technologies [that historically provided ancillary services]," he said.

He expressed particular concern over the fact that power plants providing ancillary services may also qualify for capacity payments.

"A storage system that's just targeting certain applications may not qualify for capacity payments in some of the existing [market] structures," he said.

Without some type of steady stream of income it will be hard to encourage investment in energy storage technology. "There are a lot of steps that still need to be worked through" to make investors comfortable with "massive investments in this area," he added. "It's really all about access to financing."

As far as using energy storage for renewables integration, Shelton said it is a mistake to focus first on making up for large swings in renewable energy production, such as complementing solar power at night.

The more immediate issue, he said, is ramp rates, and he stressed that a system does not need large amounts of energy storage to deal with ramping.

"As renewables developers ourselves, we don't think that a policy that dictates storage at every site you have renewables makes a lot of sense," he added. He suggested that the system operator employ the most cost-effective resources system-wide, similar to the way spinning reserves are currently provided.

## Projects and technologies

To date, AES has two energy storage projects in commercial operation. One is a 1-MW battery unit from Altair Nanotechnologies Inc. installed at the headquarters of PJM Interconnection LLC in Valley Forge, Pa., and participating in the PJM market.

The other is a 2-MW battery system from A123 Systems Inc., installed at an AES power plant in Huntington Beach, Calif.

Shelton said AES is building a 12-MW energy storage plant for one of its operations in South America. In addition, at the end of 2008 AES filed interconnection requests with the New York ISO for 20-MW energy storage projects at its Westover, Cayuga ST and Somerset generating plants.

Both Altair Nano and A123 employ lithium-ion battery technology. Shelton said AES is willing to consider other energy storage technologies. The company is looking at flow batteries and some other more traditional technologies, he said, but AES is only interested in technologies "that we think can come down the cost curve."

He stressed that one attraction of the lithium-ion battery technology is its overlap with the development of electric transportation. He said AES is working with suppliers to develop a common supply chain for utility energy storage batteries and transportation batteries.

He said this approach should lower costs and also deliver a product that is more proven.

He pointed out that the A123 storage system uses the same battery module A123 developed for hybrid bus applications. *i*