

## Siemens, Diamond Energy team up to test DR in Singapore

### Results of commercial building trial could help promote DR

A new DR pilot project from Siemens and Diamond Energy in Singapore will show local regulators just how much load can be curtailed in buildings and could offer a blueprint for the technology's spread on the island, Siemens' Anand Menon told us this week. He is the energy giant's CTO for Smart Grid in ASEAN (the Assn of Southeast Asian Nations) Countries.

"This demonstration project can serve as a very good case study," and may set a path for other buildings in Singapore to follow, Menon said. The project will give regulators and power firms "a good idea of the loads commercial buildings would be willing to curtail," he added.

The project will use Siemens' smart grid technology to add DR to the Singaporean interruptible load (IL) aggregator's existing IL program announced last month. [EDITOR'S NOTE: "IL," "DR" and "curtailment programs" are terms that are often used interchangeably as we are doing here, though the distinction in this story is that Siemens' automated DR is an enhancement of the "IL" system already being used. The term DR does not imply automation, as the term has been and still is used for programs where the utility called participating customers by telephone when a DR event was at hand].

Siemens is providing smart meters and communication gear for the project, which runs out of the Siemens Centre in Singapore, a set of commercial buildings established in 2004 that uses building automation and other smart grid technologies. Two of the buildings at the center will use the new DR system, starting with the larger one, Menon said.

Though industrial DR has been in play in Singapore since 2006, no commercial building has used the technology, Menon said. The Siemens Centre would be the first. "The first steps are basically to determine how much curtailable load we can offer," he added, by testing how much load the building can shed without discomforting its inhabitants.

#### DR to play in ancillary market

As a provider of ancillary services, Diamond Energy is authorized to trade in Singapore's National Electricity Market on behalf of consumers taking part in the program, Menon said. The broader goal of the pilot is to improve efficiency and foster competition in that market, he added.

Much of the reserve power in Singapore presently comes from power generation firms offering spinning reserve, an ancillary service that can be called on for near-instantaneous power in the case of a shortage from conventional generation.

But as DR is used more frequently in the market, "there will be competition to the generating reserves, there will be diversification of the source and type of spinning reserve and this competition can have an impact on the energy prices," potentially driving them down, he explained.

Diamond Energy Chairman Zainul Abidin Rasheed believes DR "will further increase competition in the National Electricity Market of Singapore and when implemented could potentially lead to more affordable electricity for contestable consumers," he said at the launch of the project on May 17, according to a transcript his firm gave *Smart Grid Today*.

#### Regions sees progress

Singapore is progressing from one phase of experimentation with the smart grid, AMI testing, to another in DR, Menon said. Siemens supplied 1,000 smart meters for an AMI pilot in Singapore known as "Intelligent Energy Service," he said.

The Singapore government and utility Singapore Power funded that \$30-million project that was unveiled in September of 2010.

Singapore's geography is well suited for DR, Menon said, because "land is pretty scarce in Singapore and it's really important to see that we don't need to allocate more space for peaking generating plants which will be needed for reserves as load picks up over time. So to that extent, demand response helps in providing a form of reserve as an alternative."

#### A chance to leap-frog

Southeast Asian countries, including Singapore, have the chance to leapfrog others in smart grid deployment because the region is starting from a lower baseline of infrastructure than the US, Michelle McLean, Silver Spring Networks' director of product marketing, told us recently.

Menon pointed to an upcoming AMI pilot in neighboring Malaysia run by Tenaga Nasional Berhad (TNB), that nation's largest electric utility. Siemens is taking part in the tender for the project, which will also test DR, he added.