## Southeast Asian Nations Look at Nuclear Power

By SONIA KOLESNIKOV-JESSOP NOV. 27, 2011

SINGAPORE — The nuclear crisis at the Fukushima Daiichi plant that began in March has led many governments around the world to pause, review safety measures and revise their plans for power development.

A few countries, like Germany and Belgium, have even decided to decommission their nuclear plants over the next 10 to 15 years and turn to other energy sources, while the Japanese government is re-evaluating its commitment to nuclear energy.

Despite this, the construction of nuclear power plants is set to continue at a steady rate in many countries, particularly in Asia, where India and China are considering adding plants to meet rising demand for energy.

The International Atomic Energy Agency predicted this month that plants would be built "less rapidly" than anticipated, but its director general, Yukiya Amano, also pointed out that the factors contributing to increasing interest in nuclear power had not changed.

"These included increased global demand for energy, as well as concerns about <u>climate change</u>, volatile fossil fuel prices and security of energy supply," he told the U.N. General Assembly in New York.

In Southeast Asia, where there is no working nuclear power plant, six countries have expressed interest in nuclear power or are considering it as an option.

By 2020, Vietnam will probably be the first country in the region with a nuclear power plant. The government recently reconfirmed its commitment to open a nuclear power plant in Ninh Thuan Province built by the Russian company Atomstroyexport and using two VVER-1000 or -1200 reactors.

The Vietnamese government, which wants to build at least eight nuclear plants, also announced plans to cooperate with Japan to build two reactors at a second nuclear plant site in Ninh Thuan Province. Japan Atomic Power has started a feasibility study for that project and is expected to submit a report by March 2013.

Selena Ng, regional director for Southeast Asia at Areva, the largest provider of nuclear equipment and services, said recently at a Singapore International Energy Week conference: "After the Fukushima incident, none of the six countries that had expressed interest in nuclear have definitely ruled it out,

although the incident has brought to the fore for many of them the importance of nontechnical factors essential to nuclear safety, such as having trained, experienced personnel to operate the plants, having a solid institutional organization able to manage an eventual crisis."

She added: "Malaysia is continuing discreetly to work on its feasibility study. The new Thai government has not ruled it out, despite strong internal opposition. The Indonesia government body continues to also slowly work on a feasibility study, although it is unlikely that the current president will push this through. The Philippines are reconsidering whether or not they should continue their preliminary feasibility studies."

The Philippines built the Bataan nuclear power plant in the 1970s, but its two reactors have never been loaded with fuel or operated. In 2008, an International Atomic Energy Agency mission commissioned by the government said the plant could be refurbished for \$800 million to \$1 billion and be operated economically and safely for 30 years. Although a separate feasibility study by Korea Electric Power the next year concluded that Bataan should be refurbished, the government has not made any decision yet in light of strong public opposition.

Despite the Fukushima crisis, Singapore has also reaffirmed that it is pushing ahead with a pre-feasibility study to better understand the nuclear industry. Speaking on the side of the conference, S.Iswaran, the country's second minister for trade and industry, said, "We hope that it will conclude with some initial findings by sometime next year."

"We don't want to rule any option out because Singapore doesn't really have the luxury of having too many options in the first place," Mr. Iswaran said. "We're a long way away from making a decision about nuclear energy from Singapore's point of view for a variety of reasons. But that doesn't preclude the possibility that this is a technology, by virtue of the way it is evolving and by virtue of the way the global energy environment is evolving, that will become relevant or important in the future."

In a recent report, Wood Mackenzie, advisers in the energy and metals industries, said Southeast Asia's demand for new power generation was so strong that investments of at least \$125 billion would be required from now to 2020. Graham Tyler, head of Asia gas and power research for Wood Mackenzie, wrote that "Southeast Asia's power demand growth will outpace gross domestic product growth in the next decade" and that annual demand for power in major urban areas could nearly double by 2020.

The report said Indonesia and Vietnam were the most exposed to a potential power crunch and needed the most investment.

The regions of West Java and southern Vietnam are particularly in need of new capacity, it said, because they have an overdependence on power imports from other regions.

Nobuo Tanaka, former executive director for the International Energy Agency, said that the <u>Association of Southeast Asian Nations</u> as a group was self-sufficient in hydrocarbon and renewable energy.

"So for the time being, Asean may not need nuclear," he told the

International Herald Tribune on the sidelines of the Singapore energy conference, "because if Asean countries are interconnected by a power grid or pipelines, maybe still for the time being it may have enough resources."

But the current power resources "have certain limitations," as they are running out, he said. "So nuclear is a very important option for security as well as sustainability, because growing economies will need more and more energy."

"I definitely think that Asean should discuss nuclear as an option as part of its overall energy policy," he said. "India is using nuclear, China is using nuclear, Russia is using it. If that's the case, can Asean grow without nuclear? It must prepare for demand for the future and as such, nuclear is a very important option."

Mr. Tanaka said Singapore was too small to have one big nuclear reactor, explaining that "the country would not survive if some nuclear accident was to happen." But he said that "if some new technology was allowing for a smaller-scale nuclear reactor, why not?"

Cooperation on nuclear safety has been high on Asean's discussion agenda recently.

"Longer term, we cannot reject the possibility of looking at nuclear," said Idris Jala, minister in the prime minister's office in Malaysia.

"There has been a lot of reaction after Fukushima," he added. "But I think the world cannot have a knee-jerk reaction on doing this. We need to put a cool cover on our head and ask the question, How might we deal with nuclear technology in a manner that is safe? Then we can distribute energy much more cheaply using nuclear."

Mr. Jala added that it was important for Asean to ensure that safety measures were put in place "so that everyone feels assured within the region that proliferation or utilization of nuclear is done in a way that is safe for everyone within Asean."

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