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GE Hitachi confident of designs, despite loss of customers

Despite a shrinking number of potential US customers for its two newest reactor models, GE Hitachi is optimistic there will be a market for both its advanced and evolutionary plant designs.

Entergy announced January 9 that it was suspending the combined construction permit-operating license, or COL, applications for its Grand Gulf project in Mississippi and River Bend project in Louisiana, citing difficulties in reaching an agreement for an engineering, pro-

curement and construction, or EPC, contract. Dominion said the same day that it, too, failed to agree on terms for an EPC contract for an ESBWR at its North Anna site in Virginia. Dominion spokesman Richard Zuercher said Dominion was equally concerned that it might not be possible for the ESBWR to be built in time to meet the company's need for having new baseload generation online by 2017.

Those decisions mean GE Hitachi could lose as many as three more

ESBWRs from the six units that last year had been under review for COLs. In late November, Exelon canceled plans for two ESBWRs at a greenfield site in Victoria County, Texas after deciding it needed to choose a more mature reactor design to improve its chances of securing a federal loan guarantee for the project (NW, 27 Nov. '08, 1).

The ESBWR defections over the past two months follow NRG Energy's decision last March to replace GE Hitachi
(Continued on page 10)

Russian gas supply crisis spurs calls to restart Bohunice, Kozloduy units

As Russia cut off gas supplies through Ukraine early this month, governments in Slovakia and Bulgaria raised the prospect of reopening Soviet-design nuclear units they closed as a requirement for joining the European Union.

Both Bulgaria and Slovakia get virtually all of their natural gas from Russia through Ukraine.

The Slovakian government could

decide any day to restart the Bohunice-2 VVER-440 unit to stabilize the country's electricity grid, a government spokesman said January 13. A restart decision was postponed following discussions with the European Commission the previous day. The government on January 10 had asked plant operator Javys a.s. to prepare the unit for restart.

Bohunice-2 was closed December 31,

two years after the identical Bohunice-1. Slovakia pledged to shut the first-generation VVER-440 Model 230 units in its EU accession agreement; Slovakia joined the EU on May 1, 2004.

Farther southeast, Bulgarian officials once again resurrected the prospect of restarting the Kozloduy-3 and -4 VVER-440s, which were closed on December 31, 2006 as a condition for Bulgaria's

(Continued on page 11)

TVO: Olkiluoto-3 operation delayed to June 2012

Olkiluoto-3 is not expected to be in commercial operation until June 2012, according to the latest information from the Areva-Siemens consortium, TVO Chief Executive Jarmo Tanhua said in an interview January 13.

"This wasn't a surprise for us, but it is a disappointment," he said.

In October, management for Teollisuuden Voima Oy, or TVO, said it expected reactor startup to be delayed until 2012, but did not specify when.

At that time, Areva management said it hoped further delays could be avoided and the unit could go online by the end of 2011.

However, an Areva spokesman said January 13, "We do not confirm the date of June 2012 mentioned by TVO, since we are not in a position to give any schedule as long as TVO has not taken the measures necessary for the project to move forward."

In a separate statement issued the

Inside this Issue

Turkey to build VVERs at Akkuyu if Tetas, Cabinet approve ASE bid	3
Chu: Waste issue should not stop construction of new reactors	3
RWE-E.ON joint venture to buy sites in UK, build 6,000 nuclear MW	4
Exelon continues efforts to win NRG, but deal not expected soon	7
Not all NSG states agree on sensitive-export rules	9
Sweden not blocking investment in foreign nuclear, Vattenfall says	13

A senior GE Hitachi official attributed the changes to reactor selections to updates of “risk profiles” that each utility manages. He said he believes GE Hitachi’s dedication to the development of quality products will overcome near-term needs in the industry and attract buyers for years to come.

“We are not at all out of the US market for selling plants,” said Danny Roderick, senior vice president of new plant projects for GE Hitachi Nuclear Energy. Roderick, previously of Progress Energy, took over the position this month from Steve Hucik, who became vice president of GE Hitachi’s ABWR projects.

“We’ve been in the nuclear business for over 50 years and are very committed to it,” Roderick said of GE and its partner Hitachi, noting “there has been a lot of strain on the industry” over the past year. “I think it’s just a matter of getting through the rough weather. That’s where having companies very committed to nuclear long-term is very important.”

Dominion’s Zuercher declined to comment on whether the company was considering other reactor technology but said it would hold a competitive bidding process for developing a contract.

Dominion’s North Anna is the lead project for the ESBWR standardized design. If it backs out, that will leave only Detroit Edison, which filed an application in September for an ESBWR at its Fermi site in Michigan.

Detroit Edison spokesman John Austerberry said September 12 that unlike other utilities, his company does not have a pressing need to build new generating units. He said it was pursuing a COL application to preserve the option of building a nuclear reactor “at an appropriate time, if that seems to be the best option for Michigan and our customers.” The company’s filing was timed to ensure it would comply with the requirements for obtaining future federal production tax credits. In order to qualify for the tax credits, a COL application has to have been filed by December 31, 2008, construction must begin by January 2014, and the reactor must be in service no later than January 2021.

Product lines

Roderick said GE Hitachi is “always disappointed when a customer needs to step back and relook at the finances of a project.” But he said his company will work with customers and has two product lines to offer.

The ABWR, a 1,350-MW BWR that was certified by the NRC in 1997, offers “a little more construction certainty,” he said. GE Hitachi has been involved in the development of eight ABWRs that are either under construction or operating in Japan and Taiwan, he said. The company has started discussions with the NRC to renew the design certification, which expires in 2012.

“Our ABWR is an intermediary step,” he said. “It adds a lot of additional margins beyond the fleet we have today.”

The ESBWR, a 1,520-MW design with passive safety systems, has further safety margin improvements and is expected to have lower operating costs, he said. It is undergoing certification by the NRC. GE Hitachi submitted its application in August 2005 and filed a revision in June

2008. It plans to make a final, revised submission this summer.

NRC has not yet established a schedule for completing the review, and Roderick said he did not want to speculate on when the ESBWR might receive final design approval. “We haven’t stopped any work on the ESBWR for getting a certification,” he said, adding NRC is reviewing all the information it has submitted in response to the agency staff’s questions.

Roderick stressed that while GE — then without its partner Hitachi — built its last reactor in the US at the Fermi site in 1988, it has continued building nuclear power plants abroad and has gained experience using modular construction techniques, unlike some of its competitors.

He said GE Hitachi is in talks with several US-based customers, and others around the world. “We have several active customers that we’re working with, and as those details [become available], we’ll disclose them,” he said. Roderick said utilities are seeking the best deal possible for a new reactor and are comparing deals from different vendors. “That’s nothing new,” he said.

GE Hitachi won’t make promises to customers that it can’t deliver, he said. “We won’t put anything on the market that’s not technically complete and that we’re not willing to put our trademark on it.”—*Jenny Weil, Washington*

Russia ... *from page 1*

joining the EU the next day.

The European Commission had said the old VVERs should be closed because they could not meet Western safety standards at reasonable cost. The commission has refused to consider Slovakian and Bulgarian arguments that the units have been upgraded.

Lithuania, too, gained entry to the EU at the cost of a promise to shut its two Soviet-era RBMKs at Ignalina. The first was shut at the end of 2004 and the second is to be closed at the end of this year. Lithuania’s prime minister said this week that the Slovakian dilemma with Bohunice shows that Ignalina-2 should not be shut until Lithuania’s energy security is ensured (see story, page 12).

The countries required to shut Soviet-design reactors negotiated a clause that allowed them to ask the EU for permission to restart the plants within three years of accession if they experienced economic duress. However, that period expired in 2007 for Slovakia and Lithuania.

Russia’s Gazprom stopped deliveries to Ukraine’s gas company on January 7 after failure of negotiations on higher prices for the Russian gas. As happened two years ago, Gazprom said it continued to send gas to the West through Ukrainian pipelines, but the gas didn’t arrive and some countries were severely affected.

Following an agreement among Russia, Ukraine and the EU on monitoring of gas transit through Ukraine, Russian gas supply to Europe was expected to resume January 13. But despite Russian orders for gas deliveries to Bulgaria and Slovakia, not a single cubic meter of gas was received in

either country that day, with Russian and Ukrainian officials each blaming the opposite party.

Besides the shortfall of gas to heat homes and fuel industry, the shutdown of gas-fired power units had put the Slovakian power grid in danger, Slovak officials said. Those units are used for so-called grid support services — primary, secondary and tertiary frequency and voltage regulation — that are required to keep the grid stable, they said.

Slovakia declared a state of emergency last week and the government's crisis committee decided on the Bohunice restart in principle late January 9.

The situation was further exacerbated when a fire early January 12 idled two 110-MW coal-fired units operated by the country's main electric utility, Slovenske Elektrarne, which is majority-owned by Enel. However, SE said in a statement that it was restarting two other coal-fired units to provide replacement power and that it had additional power reserves. However, a spokesman declined to say how much.

Dobroslav Dobak, spokesman for Javys, said January 12 that all necessary preparations had been made to restart Bohunice-2 and that permission had been obtained from the Nuclear Regulatory Authority of the Slovak Republic. The 10-year operating license for the unit is still valid, he said.

He said it would take four to five days to get Bohunice-2 providing power to the grid once Javys receives the order to restart the unit.

He said the plan was to restart only one of the two 220-MW turbines and operate the plant at 50% power for about two months until the nuclear fuel still in the reactor core was exhausted.

Dobak said that was considered sufficient to stabilize the power grid and bring Slovakia back into compliance with the quality regulations of the main European power grid, UCTE.

Slovak Economy Minister Lubomir Jahnotek met January 12 in Brussels with EU Energy Commissioner Andris Piebalgs to discuss the Bohunice restart proposal. After the meeting, a Jahnotek spokesman, Vahram Chuguryan, said Piebalgs had expressed "understanding for the Slovak position, but he said restarting the reactor would be breaking EU rules."

Branislav Zvara, Jahnotek's chief spokesman, said January 13 from Zemianske Kostolany — where the minister was inspecting the coal-fired power plant that had the fire — that "the situation is very tense, and we can't hold out for very long." Additional short-term power imports from the Czech Republic have kept the grid stable, and there are possibilities of importing from Poland or Hungary, he said.

Even once the gas flows, Javys' Dobak said it would take a week or more to fill the pipelines in Slovakia and stabilize the electricity grid.

A Slovak industry source, however, said the power situation was not dire and that the grid company could call on customers to reduce consumption and/or import more power from neighboring countries, notably the Czech Republic. He said both western and eastern Slovak distribution companies had said there was no risk of a blackout in their regions, contradicting a statement by Jahnotek.

In the statement, SE said it was guaranteeing stable supplies to the grid in accordance with its agreements and that the gas shortfall had "not affected" its operations. SE operates coal and hydro plants and Slovakia's four operating nuclear power stations at Bohunice and Mochovce.

Restart if necessary

Zvara said the government's crisis committee will continue to monitor the situation of Slovakia's grid daily and will decide to restart the reactor if it appears necessary.

In talks with Piebalgs, he said, Jahnotek promised that Slovakia would take all possible steps to stabilize the grid before deciding to restart the 408-MW Bohunice-2.

Slovakia's antinuclear neighbor Austria has protested against the restart. According to the Slovak press agency TASR, Slovak Prime Minister Robert Fico told his Austrian counterpart, Werner Faymann, on January 13 that Bratislava stands ready to receive an EU monitoring team to check the reactor's status.

"The Slovak side accepted the EC's request to investigate all the possibilities for flexibility and all other measures to keep the grid from collapsing before deciding to restart the nuclear plant," Zvara said.

Jahnotek will make the decision based on the daily assessments of the grid and Russian gas supply, officials said.

Five months to restart Kozloduy

Bulgarian President Georgi Parvanov declared January 6 that Article 36 of the country's EU accession treaty allows for the decommissioned Kozloduy reactors to be reactivated in crisis situations such as the present one.

Article 36 expires on January 1, 2010, three years after Bulgaria joined the EU. The article does not specifically mention the nuclear units, but allows for "protective measures" to be taken if "difficulties arise which are serious and liable to persist in any sector of the economy."

But according to the EC, it requires Bulgaria to make a notification to the commission, something which, as of press time, it had not done. The EC would then evaluate the question from a legal point of view, taking into consideration the exceptional circumstances, according to spokesman Ferran Tarradellas.

According to sources in Bulgaria, it could take three to five months to restart the VVER-440s and they could run for only five months on existing fuel stocks.

A source in Bulgaria said Kozloduy-3 would be the unit most likely to be restarted because, according to this source, it is in better condition to be restarted quickly.

An official at the Bulgarian nuclear regulatory agency, who spoke on condition of anonymity, said January 12 that restarting one of the closed Kozloduy reactors would require regulatory approval.

"The licensee would have to make an application to our agency," the official said. "It would take about a couple of months to review and then we could issue an operating license."

Teodora Ribarska, head of the administration and control division at Nuclear Power Plant Kozloduy, said January 13

that the reactors could be restarted in about a month after a government decision was made and after the Bulgarian nuclear regulatory agency approved an operating license request. The reactors' fuel was moved to onsite storage pools after shutdown.

Ribarska said that during the review of an operating license, preparations for restarting the unit could get under way, and that once loaded with fuel, the reactors could run for about five months each.

Closure of Kozloduy-3 and -4 cut back substantially on Bulgaria's ability to export power. Bulgaria was once a major power exporter in southeastern Europe, but last winter it halted all exports for several months claiming its reserve margins were too small (NW, 24 Jan. '08, 1).

The situation may be different currently. According to one Sofia-based consultant, Bulgaria is still exporting power this winter, albeit not in large quantities.

Kenneth Lefkowitz of New Europe Corporate Advisory, a corporate financial advisory firm specializing in energy, said January 12 the cutoff of Russian gas supplies to Europe as a consequence of Russia's dispute with Ukraine, has not strained Bulgaria's national power grid.

Lefkowitz said the disruptions from the Russian gas cutoff were having only localized effects on the electrical grid in Bulgaria. The gas supply disruption has primarily affected district heating, he said. This has led to some instability at substations as building residents simultaneously plug in electric heaters, but he said it has not affected the national power grid.

However, he said, a year ago, the Russian gas cutoff would have been much more of a strain on Bulgaria's national grid, since reserve margins were lower then and Bulgaria halted all exports for several months.

Lefkowitz said, at the moment, power demand is down in Bulgaria notably due to the global financial crisis, which has cut into energy-intensive industrial usage, such as by steel mills.—Ann MacLachlan, Paris; David Stellfox, Barcelona

Lithuania citing gas supply crunch in bid to run Ignalina-2 longer

The shutoff of Russian gas supplies to Europe is providing fresh ammunition to the Lithuanian government in its battle with the European Commission to keep Ignalina-2 running after 2009.

In a statement January 12, Lithuanian Prime Minister Andrius Kubilius said Lithuania needs to keep the unit operating to ensure security of energy supply. Lithuania does not want to find itself in the same situation as Slovakia, he said. Slovakia's prime minister and economy minister announced over the weekend that Bohunice-2 could be restarted to make up for Russian gas supplies (see story, page 1).

Gas deliveries to Western customers via Ukraine were supposed to resume January 13, but unidentified problems kept the pipelines through Ukraine empty that day. Russia and Ukraine have blamed each other for the delays.

Kubilius said, "Jointly with the European Commission,

we should take every effort to ensure that our country should not face the same dilemma that Slovakia is grappling with right now."

The Bohunice reactors in Slovakia and the Ignalina reactors in Lithuania were required to be permanently shut as part of those countries' EU membership accession treaties. Restarting the units would violate their treaties.

Bohunice-2 was shut December 31, 2008 and unit 1 was shut at the end of 2006. Both are VVER-440s. Ignalina-1 was shut in 2004 and Ignalina-2 is scheduled to be shut at the end of this year. Both are 1,300-MW RBMKs. Ignalina-2 supplies about 70% of Lithuania's electricity and power for export.

Lithuania has been hoping to build a new Ignalina plant with Latvia, Estonia and Poland as partners. However, the project has been delayed by disagreements among the four, and Estonia and Poland are now considering building their own reactors.

No new Ignalina plant could be in service until around 2020. Lithuania will have to use gas-fired plants for interim generation and its only source of gas is Russia.

Lithuanian Foreign Minister Vygaudas Usackas on January 12 spoke by phone with European Union Energy Commissioner Andris Piebalgs, expressing concern about the security of Lithuania's energy supply, according to a statement from Usackas' office.

The two agreed to meet in Brussels at the end of January for further discussion. They will also take up the issue in Vilnius in March during a conference on creating a common energy market in the Baltic countries.

Piebalgs has repeatedly said the EC will not agree to an operating extension for Ignalina-2.

—Ariane Sains, Stockholm

Sweden not blocking investment in foreign nuclear, Vattenfall says

Vattenfall dropped out of a venture with RWE to invest in new nuclear power in the UK after the Swedish company's board of directors and management concluded that the price RWE was prepared to pay was too high, Vattenfall executives said January 14.

RWE announced last week it would buy land and a grid connection to build new nuclear capacity at Wylfa in North Wales (NW, 8 Jan., 1).

Lars Josefsson, Vattenfall AB President and CEO, would neither conform nor deny rumors that Sweden's enterprise and energy minister ordered him not to invest in the UK nuclear project.

Vattenfall is owned by the Swedish government. But according to Josefsson, the company's management doesn't take orders from the Swedish government about its investments. "Vattenfall is not a politically led firm," he said. "There is an orderly process in which these matters are discussed between board members and management."

According to Josefsson, Vattenfall is "still interested" in