

Nucleonics Week

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Taiwan cabinet, Taipower mulling reversal of DPP nuclear freeze

Seven years after Taiwan's ruling Democratic Progressive Party halted construction of two ABWRs at Lungmen and instigated a drive to phase out six operating reactors, Ouyang Min-shen, the DPP minister holding the nuclear energy portfolio, has advised the cabinet to consider building new nuclear units in the national interest, sources said last week.

In parallel, Taiwan Power Co. has begun an internal evaluation of prospects for adding nuclear capacity at

four sites, which, company officials said, could host up to 14 more LWRs.

Were Taiwan to take steps in this direction, it would mark a radical departure from the nuclear energy policies pursued by the DPP since it took power in 2000.

Right after the election, the DPP halted the Lungmen ABWR project in mid-stream and prepared to phase out all of Taiwan's operating power reactors. Taiwan's high court overturned the Lungmen decision in 2001. But

Taiwan's president, Chen Shui-bian, went on to establish a "non-nuclear homeland" policy for the island, and, two years ago, his staffers drafted a phase-out law.

That was then. This is now.

Ouyang, minister for nuclear energy affairs and a DPP member appointed to the cabinet by Chen in 2002, recently told the cabinet that, in light of threats to Taiwan's energy security and economic growth posed by climate change and

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Sarkozy's victory in France seen as a win for nuclear power

Electricite de France's license to build Flamanville-3 is preserved thanks to the victory May 6 in the country's presidential elections of the pronuclear conservative candidate, Nicolas Sarkozy.

Beyond that initial effect, analysts see Sarkozy's presidency bringing strong government support to nuclear power both in France and worldwide as a means of combating global warming, an issue he has put high on his

priority list.

Sarkozy's opponent, Socialist Segolene Royal, had promised if elected to abrogate the decree published by the current conservative government April 11 authorizing EDF to build the 1,600-MW EPR unit at Flamanville. She had vowed to hold a new national debate on energy policy with emphasis on efficiency and renewables before deciding whether any new nuclear power plants

should be built in France.

Sarkozy won 53.06% of the national vote in the election's second round May 6, with Royal getting 46.94%. Nearly 84% of registered voters participated, a near-record.

EDF continues site preparation work at Flamanville, and is targeting first concrete for the EPR nuclear island in mid-December. The target date for first

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House panel leaders push for loan guarantees

In a sign of growing frustration with DOE, leaders of the House Energy and Commerce Committee sent a letter to the White House last week urging the administration to get involved with the development of a loan guarantee program for future clean energy projects.

The loan guarantee program, which committee leaders called a "keystone" of the Energy Policy Act of 2005, has become pivotal to the nuclear renaissance in the US. Industry officials say

that without loan guarantees, companies considering building new reactors will not be able to secure funding for their projects. But they also have denounced DOE's proposed structuring of the loan guarantees as being so impractical that no investor or banker would be interested in financing a new nuclear plant.

Echoing the concerns of the nuclear industry and Wall Street bankers, committee Chairman John Dingell of

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The lack of credibility of government policy has been underscored by developments since 2004. While Taipower's nuclear reactors during the last three years generated power at stable and low costs, prices for fossil fuels and renewables have skyrocketed. Company officials said last week that, in 2007, this trend will continue and could result in a massive loss.

During a 2005 government-sponsored national energy policy conference, academic and industry experts told DPP leaders that Taiwan could not afford to phase out its nuclear program, meet energy security needs, and deflect future foreign nations' trade restrictions justified by Taiwan's non-participation in carbon emissions reduction regimes. DPP leaders running the conference, one participant said May 4, "simply ignored all these warnings and announced the conclusions which the DPP drafted before the meeting began."

Another energy summit meeting on Taiwan will be held this year. With the 2008 election nearing, however, officials said, the conference will not likely result in any changes in the DPP's official frosty attitude to Taiwan's nuclear program.

All eyes on Hsieh

The chances that Taiwan will break with the DPP's anti-nuclear record may have received a boost on May 7, when the DPP moved toward nominating Frank Hsieh as its presidential candidate in next year's election, Taiwanese political and industry sources said. In contrast to Chen, who attracted voters by whipping up grass-roots fervor — including opposition to nuclear power — Hsieh has a track record as an insider who seeks compromises on key issues.

Taiwan's constitution prevents Chen from running for a third four-year term. In the first stage of a two-part nominating process, Hsieh was selected over his main rival, Prime Minister Su Tseng-chang. It is expected that Hsieh will be nominated, as the second step pits him against lesser candidates.

The opposition Kuomintang, or KMT party, last week selected Ma Ying-jeou, Taipei's mayor, as its candidate.

Political sources said that it could be expected that Ouyang would approach Hsieh to keep the nuclear issue out of the campaign as much as possible, given that, for Hsieh to be elected, he must appeal to the same grass-roots voters who enabled Chen to win two presidential elections.

A year ago, the DPP's chances of winning again in 2008 seemed remote. Chen was embroiled in an influence-peddling scandal touching on members of his immediate family and a huge majority of voters polled said he should resign. Taipower's favored candidate then, sources said, was Ma, who could be expected to continue the KMT's favorable attitude to nuclear power. More recently, however, Ma's luster in the polls has also dimmed.

Chen, who came to power vowing to cement Taiwan's independence from mainland China with a constitutional referendum, promulgated a vague "non-nuclear homeland" policy meant in part to clash with China's determination to rapidly build a fleet of nuclear power reactors which the DPP dubbed as dangerous.

Hsieh, by contrast, seeks to avoid confrontation with China. Industry and government sources said that, unlike

Chen and some other DPP leaders, Hsieh may be inclined to end the DPP's antinuclear stance if he concludes that doing so would help reduce regional tensions by improving Taiwan's energy supply security.

Taipower became acquainted with Hsieh two decades ago when Hsieh was mayor of Kaoshiung, Taiwan's second largest city near the Maanshan site where Taipower wanted to build two PWRs. Hsieh paid lip service to the non-nuclear homeland policy "so long as it didn't have a price tag," one veteran Taipower executive recalled. "But he understood that (the Maanshan project) was important for local industry and so he didn't let antinuclear DPP groups kill it," the executive said.

Similarly, when Hsieh served as Chen's prime minister, he opposed efforts by antinuclear DPP activists to overturn a 2002 political deal that restored funding to the Lungmen project. "Hsieh is not antinuclear," one senior Taipower official said May 2. "If he concludes that more nuclear power will be good for Taiwan, and he can change the policy without getting beaten up" by DPP voters, "he'll go for it."

—Mark Hibbs, Taipei

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connection to the grid is 2012.

Pronuclear groups in France hailed Sarkozy's win. Bruno Comby, president of Environmentalists For Nuclear Energy, EFN, a multinational organization based in France, released May 8 the text of a letter Sarkozy had sent him April 18 in response to a query on Sarkozy's energy and environment policy. In the long letter, available on the group's web site <http://www.ecolo.org>, Sarkozy said that the fact that France's electricity is almost 80% nuclear "largely explains why France emits 18% less greenhouse gas per inhabitant than the average of the European Union countries." He said renewable energies were "one solution" to combat a rise in CO2 emissions, but that "we must keep all our options open for replacing our present fleet of nuclear power plants starting about 2015, beginning with the construction of the EPR to come on line in 2012. In terms of safety (accident prevention) and for the protection of the environment against waste, it is my position that the EPR reactor represents a great step forward."

During his televised debate May 2 with Royal, Sarkozy incorrectly identified EPR as a Generation IV reactor. EPR's designer, Areva, calls it a Generation III+ reactor. Royal's Socialist Party remains split on the future of nuclear in France, with the party's official position being in favor of making today's reactors last long enough to bridge the gap to Gen IV reactors believed safer and capable of burning today's waste as fuel.

Commenting on the Sarkozy election, antinuclear federation Sortir du Nucleaire said Sarkozy had demonstrated in the debate with Royal that he didn't have a grasp of the facts. It said that was "all the more troubling" in that Sarkozy had himself promoted construction of an EPR when he was minister of economy in 2004.

Both candidates had erred in the debate when asked the percentage of nuclear in France's electricity supply, with Royal saying it was 17% and Sarkozy 50%. It is actually close to 80% — a figure Sarkozy got right in the letter to Comby two weeks earlier. *Sortir du Nucleaire* said the 17% figure cited by Royal corresponded to nuclear's contribution to France's total energy consumption, which includes electricity and all non-electricity consumption such as motor fuels.

In the letter to Comby, Sarkozy also said it was "clear that we must ... reassure all our citizens who expect to be better informed about the disposal of nuclear waste and more closely associated with decisions concerning nuclear waste. I propose therefore to create an independent agency which would guarantee that nuclear energy is properly managed. This agency would have a 'freedom of information' mission, identifying those documents that can be communicated to citizens and those that cannot for obvious reasons of national security."

During the national debate about the Flamanville-3 EPR conducted between late 2005 and early 2006, anti-EPR groups tried unsuccessfully to obtain detailed information about the resistance of the new reactor to terrorist aircraft attacks. Several groups, including Greenpeace and *Sortir du Nucleaire*, then discontinued formal participation in the debate on grounds that vital information about the reactor design was being withheld.

The 2006 Nuclear Transparency and Safety Act, passed in June, provides for the establishment of a "High Committee on Transparency" seen as a conduit for providing such information, when possible, to citizens who request it. Sarkozy's proposed agency appears to be the embodiment of that provision. The decree setting up the transparency committee has not yet been promulgated nor committee members named. That task will now fall to the next government, probably after legislative elections in June.

French nuclear leadership

Sarkozy, in the letter, said that nuclear power contributes to the three objectives of France's energy policy as defined by law: national energy independence and security of supply; action against the greenhouse effect; and "competitive and stable" electricity prices.

Sarkozy further said he is "favorable to the development (of nuclear power in the world) with the obvious rule that we collaborate only with democratic governments and under strictly administered conditions. This kind of partnership backed by the strength of the French nuclear industry [means we must] maintain the leadership in this domain of our French vendor (Areva) and our French nuclear utility (EDF). Construction of the first EPR will help us keep our leadership."

Sarkozy also expressed a strong will to tax CO₂ emissions, saying that while both taxation and the market are "powerful tools to modify people's behavior without restricting innovation," markets do not sufficiently take account of the environment as a resource and pollution as a cost. He said he would not change the European Union's preference for a market of emission rights over taxation. But he said he

"cannot accept the idea that European producers, making a virtuous contribution to combat climate change, should suffer in the international competition with countries which have decided not to apply the Kyoto Protocol."

While the EU has pledged unilaterally to reduce its greenhouse gas emissions by 8% between 2008 and 2012, he said, that penalizes European industry vis-a-vis US businesses since the US has not signed the protocol. "I find that is an unacceptable inequality of treatment and a distortion of competition, because the quotas of greenhouse gases can legally be considered as a financial charge ... on European industry," he said.

Sarkozy said that for that reason, he will ask the European Commission to "propose an arrangement" whereby goods imported into Europe would be required to meet the same requirements for reduced CO₂ emissions as are applied to those fabricated in Europe.

Lauvergeon in government?

Sarkozy is to take office as president May 16, and is expected to name a new government immediately, with a progressive Gaullist, Francois Fillon, as prime minister, according to media reports this week. Sarkozy has promised a small government by French standards, with only 15 members, half of them women. After the legislative elections June 10 and 17, which are widely expected to give a broad mandate to Sarkozy's post-Gaullist UMP party, the government will likely be filled out with state secretaries and junior ministers with sectorial responsibilities.

Among the names that have circulated in recent weeks as one of the seven or eight female ministers in a Sarkozy-Fillon government is Anne Lauvergeon, CEO of Areva. Her name has been associated with a new ministry of economic strategy and labor that would be separated from the ministry of finance. Although she once served on the staff of Socialist President Francois Mitterrand, Lauvergeon and Sarkozy were close when the latter was economy minister in a previous conservative government, and it was Sarkozy who announced an imminent initial public offering for Areva stock in November 2004. That policy was reversed by his successors when Sarkozy was taken off the economy portfolio. Lauvergeon has not commented on the possibility of her taking a ministerial job.

An Areva initial public offering is likely to be back on the table under a Sarkozy presidency, observers say. But the nuclear company, currently 93.37% state-owned, could also well be part of a restructuring that could involve the private engineering and construction firm Bouygues, whose chairman/CEO, Martin Bouygues, is also close to the leaders of the UMP, as well as Bouygues' protege Alstom and its ambitious chairman/CEO, Patrick Kron. Bouygues holds 25% of Alstom and is the shareholder most closely involved in management of the company. Some market analysts say Bouygues and Alstom would like Lauvergeon out of the way in government in order to consummate their project to marry Alstom, which supplies steam turbines and other electrical equipment for nuclear power plants, with Areva NP (the former Framatome), if not with the rest of Areva.

Lauvergeon has so far opposed the merger.

In any case, Sarkozy has promised to make the environment a government priority, beginning with a meeting in September to set the country's new energy and environment policy. Sarkozy's advisers have said he will establish a super-ministry combining environment, transport and energy. Nathalie Kosciusko-Morizet, a Member of Parliament who has been the UMP's environment spokeswoman and authored a well-received report on climate change, is seen as the favorite to head that ministry. More recent reports have suggested that post could go to a member of the centrist UDF party, some of whose members supported the Sarkozy candidature in the second round of voting last week.

—Ann MacLachlan, Paris

CNSC wants review panel to assess impact of new Bruce reactors

The Canadian Nuclear Safety Commission has asked the federal government to appoint a review panel to conduct a full environmental assessment of Bruce Power's proposal to build up to four new reactors at its Bruce site.

The CNSC said May 7 that public concerns warrant a full review and noted that there has been a higher than usual number of requests from the public for documents and records related to the company's request for a site preparation license. At CNSC meetings April 11 and 12, Bruce Power requested an early referral to a review panel.

The federal government's environment department, which is charged with the responsibility of appointing the review panel, has not yet responded to the CNSC's request.

Bruce Power expects the environmental assessment may take up to three years to complete.

The company is considering advanced units of domestic and foreign design. It wants the new units to generate up to 4,000 MW. The site can accommodate up to 12 units. Four units at Bruce B and two at Bruce A are operating. The other two Bruce A units are in the process of being refurbished.

In its decision released May 7, the CNSC said that a full review panel "appears to be appropriate under the circumstances, considering the use of new technology in Canada and the importance and complexity of the project."

In a statement released the same day, Bruce Power President and CEO Duncan Hawthorne said a panel review is "entirely appropriate" and welcomed it as an important planning tool for the utility.—Rennie MacKenzie, Ottawa

Notes to Nucleonics Week's generating table for March 2007

Units in the US and in Europe outside the UK reported results for 743 hours in March and 2,159 hours year-to-date. Units in Asia reported results for 744 hours in March and 2,160 year-to-date. Britain's Magnox Electric reported results for 840 hours in the month and 2,184 year-to-date.

Belgium's Tihange-1 was shut approximately 522 hours for refueling, which began March 10.

In **Brazil**, Angra-1 and -2 were both shut part of the month for scheduled refueling. Angra-1 returned to service March 4. Angra-2 was shut March 17.

Czech Republic's Dukovany-2 began scheduled refueling March 16 and remained off line through month's end. Dukovany-3 returned from refueling March 4.

In **Hungary**, Paks-1 was shut March 2 to begin annual maintenance and refueling. Paks-2 was forced off line March 27 due to a core temperature measurement channel leak.

Japan had the following units shut all/part of the month due to periodic inspection, maintenance or refueling: Fukushima I-1, Fukushima II-4, Genkai-2 and -3, Hamaoka-1 and -2, Higashidori-1, Kashiwazaki-Kariwa-5, Mihama-1, Ohi-1, Shimane-1, and Tsuruga-1.

In **Mexico**, Laguna Verde-1 went off line March 3 and returned to service March 30, completing a scheduled refueling outage in 659.6 hours.

Pakistan's Chasnupp-1 remained shut through the month for scheduled refueling and maintenance.

In **South Korea**, Ulchin-3 was shut 247.75 hours for refueling and maintenance and was brought online March 11. Wolsong-2 began periodic inspection and maintenance March 3 was shut approximately 675 hours. Yonggwang-1

was shut 653.23 hours during the month due to generator stator issues and returned to service March 28.

Spain's Garona and Asco-2 were shut part of the month for scheduled refueling.

In **Taiwan**, Chinshan-1 began scheduled refueling on March 4 and was shut approximately 649 hours. Maanshan-2 was scheduled shut 129.35 hours due to manway flange leakage.

AmerenUE's Callaway was forced shut 99.35 hours due to a condenser tube leak and cleaning up secondary chemistry as a result of the leak.

Constellation's Nine Mile Point-2 was forced shut 169.43 hours after recirculation pump "A" tripped and due to high seal pressure. The seals were replaced and the unit returned to service March 16.

Dominion Energy's Kewaunee was forced shut 226.05 hours by instrumentation issues.

Nuclear Management Co.'s Palisades returned from 125.92 hours of forced outage March 6 after repairing electrical cables and control rod drive seals.

Out for part of the month in the US for scheduled refueling and/or maintenance were: **Constellation's** Calvert Cliffs-2 and Nine Mile Point-1, **Dominion's** North Anna-2, **Duke Power's** McGuire-1, **Entergy's** Grand Gulf and Indian Point-3, **Exelon's** LaSalle-2, **FPL Energy's** Duane Arnold, **Nuclear Management Co.'s** Monticello, Point Beach-1, and Prairie Island-2, **PPL Susquehanna's** Susquehanna-2, **PSEG Nuclear's** Salem-1, **South Texas Project's** South Texas-2, **Southern Nuclear's** Hatch-2 and Vogtle-2, **Tennessee Valley Authority's** Browns Ferry-2, and **TXU Power's** Comanche Peak-1.