

## NEWBUILD

### Jordan To Announce Vendor Selection in Mid-October

Jordan's Atomic Energy Commission (JAEC) is reviewing offers related to construction of its first two-unit nuclear plant, which now looks set to be located in the country's eastern desert region. In an e-mail to NIW late Friday, JAEC Chairman Khaled Toukan said he'd received an "integrated offer" from Rosatom on Aug. 1 — including for a combined engineering, procurement and construction contract as well as for investment in and operation of the plant, presumably Atomstroyexport's VVER-1000. A consortium of France's Areva and Japan's Mitsubishi Heavy Industries (MHI) on Friday sent a final offer related to the Atmea1. And separately Toukan said he received a letter Thursday from GDF Suez related to the Atmea1 bid.

"Currently, we are analyzing the three offers. It would be a few weeks to determine which offer meets best JAEC's requirements. We expect to announce the winner by mid October," he wrote. GDF's role in any Areva-MHI deal would presumably be as an investor, an operator or both. The company, whose subsidiary Electrabel is a nuclear operator in Belgium, was part of the winning consortium alongside Areva and MHI at Turkey's Sinop, and holds an equity stake in the UK nuclear developer Nugen.

The JAEC's decision will require cabinet approval before it is announced, Toukan said earlier in the week during the International Atomic Energy Agency's (IAEA's) annual general conference in Vienna. Once that approval is secured, the JAEC plans to enter into negotiations on funding, a power purchase agreement, and how to handle complex issues at the site, a process that could take around two years, he said. An earlier technical evaluation narrowed the field of contenders to Atomstroyexport's AES-92 VVER-1000 and the Atmea1, proposed jointly by Areva and MHI. Atomstroyexport parent company Rosatom's fuller and more flexible financing package, seen as key to supporting Russia's domestic nuclear industry, may also prove key to a final decision.

The anticipated selection is a diversion from the engineering, procurement and construction (EPC) tendering process the JAEC had been focusing on before the parliament spectacularly halted the newbuild effort last year (NIW Jun.1'12). Then, lawmakers voted to stop the program until financing was secured and a site conforming to international regulations was selected. By entering into negotiations with a vendor which can offer strategic investment, the JAEC appears to be gearing up to demonstrate that at least some of the financing can be met. The JAEC and the IAEA also have hosted events designed to address concerns of parliamentarians in Jordan, Toukan said in his address in Vienna this week.

Earlier this year, NIW reported that the JAEC might recommend scrapping the bidding process in favor of finding more than one investor in the proposed plant, including one or more strategic investors from the region in addition to an "investor operator" (NIW Apr.26'13). This was not the first time the JAEC had talked about outside investment — NIW reported in 2011 the original bid request included a desire for proposals to "operate and invest" in the country's first reactor (NIW Feb.22'11). But it did indicate a possible widening of the build-own-operate model used by Rosatom for the Akkuyu newbuild project in Turkey, although Jordan intends from the start to retain majority ownership of its nuclear power plant through a specially established state-owned company.

Toukan this week said that the process to solicit investment interest from reactor vendors has long been in place but was prioritized more recently. "When we floated the EPC contract proposal, we also in parallel floated another request for proposal for strategic investor," Toukan said. "And said 'What can you put on the table and how much are you willing to invest?' And that was three years ago and there was some interest expressed."

"At the beginning of this year we sent other letters," he said. "We said, 'We want a firm commitment and we are asking you to come up with 49% of equity,' so we gave them deadlines and we are waiting for the proposals."

#### Challenged Program

Parliamentary opposition is not the only issue that has plagued the Jordanian nuclear program. Site selection for the nuclear power plant has also proven problematic. Seismology and proximity to borders and population centers necessitated alternatives to the preferred site on the Gulf of Aqaba, but water for cooling will remain an issue. Jordan has recently chosen a site in the desert about 60 kilometers from the capital to construct the reactors, said Toukan. An existing wastewater treatment facility currently treats 70 cubic meters per year of water and will be expanded to 120 cubic meters/yr, he said. The JAEC estimates that the amount of water necessary to cool a two-reactor unit will be about 50 cubic meters/yr, Toukan said.

Notably, the country's talks with the United States — a key political ally — over a nuclear cooperation agreement fell apart over Jordan's reluctance to forgo enrichment and reprocessing, with Jordan citing its own uranium resources and a desire to be less reliant on fuel imports. That has effectively kept US suppliers out of the deal. At the same time the uranium potential was overstated and Toukan found himself embroiled in controversy for allegedly misleading Parliament over the reserve figures (NIW Jun.1'12). While Jordan had initially attracted both Rio Tinto and Areva to explore for uranium, both companies had withdrawn by last year (NIW Oct.26'12).

Resource-poor Jordan, which was hit particularly hard by gas shortages in the wake of the Arab Spring from its once-regular supplier Egypt, is targeting being a net electricity exporter by 2030, Toukan said. Jordan's government has since contemplated importing gas from Israel and tendered for a regasification unit that would permit LNG imports from suppliers beyond its neighbors, although a decision was delayed earlier this year (IOD Jul.5'13).

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## RUSSIA

### Bushehr Proposal — Part of Russia's Grand Diplomacy?

Russia has dusted off an old agreement to build new reactors for Iran, a move that has evoked questions about the Kremlin's motivations given the extreme challenges in getting the first Bushehr reactor up and running, not to mention the financial losses Rosatom shouldered due to countless delays and set-

backs. The information, apparently leaked from the Kremlin, appeared on the eve of President Vladimir Putin's first meeting with Iran's newly installed president, Hassan Rouhani, on Sep. 13. While conceding that geopolitics is a factor, Russian observers say Moscow's willingness to jump in the same pit twice also stems from its fierce competitiveness on the international market and a belief that this time around the project could make money.

Putin and Rouhani were expected to discuss two more reactors for Bushehr in Kyrgyzstan, but Dmitry Peskov, Putin's spokesman, said the topic did not come up. It is likely, however, the two sides did indeed broach the subject but agreed to keep talks under tight wraps while Russia is engaged in grand diplomacy to place Syria's chemical weapons stockpile under international safeguards (NIW Sep.13'13), or to destroy them altogether. Ostensibly, reports that Moscow was planning to expand Iran's nuclear power capacity would have triggered indignation in Washington and aggravated its Syrian initiative.

There have been other indications that Russia wants to wait until after Sep. 24, the date it is scheduled to hand over control of the Bushehr plant to the Iranians, before making any major announcement on additional reactors. But this, too, is doubtful, and it is more likely that a declaration of talks will occur while either Putin or Rosatom boss Sergei Kiriyenko are visiting Iran.

Regardless, the Sep. 11 report in the Russian paper *Kommersant* that Russia is willing to expand Bushehr calls to mind the Kremlin's behavior two years ago when, in November 2011, an IAEA report claimed credible evidence of a Iranian nuclear weapons program. Moscow immediately sided with Iran and announced its preparedness to build new reactors at Bushehr. But by the following summer, with the fallout from the IAEA report long gone, Russia had clearly stepped back. Rosatom boss Sergei Kiriyenko said in June 2012 that there were no negotiations with Iran on new units and that he had heard about plans for a second reactor at Bushehr "from media reports."

Now, with the crisis in Syria at its apex, and Iran in flux after a leadership change, the latest Russian newbuild initiative smacks of another power-play in the turbulent Mideast. Russian experts stress that Putin and Rouhani would only sign a political agreement and that a contract is months, if not years, away. The two countries have yet to iron out differences over Russia's refusal, during former President Dmitry Medvedev's administration, to deliver S-300 anti-aircraft weapons systems. More importantly, any contract, they say, would be far less deferential to the Iranians than the one Moscow signed with Tehran in 1992 for completing the first reactor at Bushehr.

#### Less Credit Risk at Bushehr?

"There are questions whether the project, under current sanctions regime, can be executed in a realistic timeframe, especially whether the restrictions on financial transactions involving Iran will be relieved...then the project has better chances. If the Iranian side can't pay efficiently and timely for equipment and services, then there will be difficult to implement a project," said Anton Khlopkov, director of the

Moscow-based Centre for Energy and Security Studies. In terms of economic risks, a Bushehr newbuild would carry less risk than other prospective foreign projects, said Khlopkov, since the Iranians were unlikely to ask Russia for credit — exactly what projects in Belarus, Ukraine, Vietnam, Bangladesh hinge on. "From this standpoint, an Iranian project is attractive to Russian industry because Iran is ready to pay cash," he said.

Given Iran's repeated statements in recent years of a desire to build up to 20 reactors, experts stress that competition should not be underestimated. "There are people in Russia who are convinced that if Russia refuses to participate in Iran's nuclear program, then someone else will step in and do it — a western or a Chinese company," said Andrei Cherkasenko, general director of Atompromresursy, an industry investment group. He said that, in addition to political risks, agreeing on anything with the Iranians is difficult and negotiations could collapse at any stage.

At the same time, observers acknowledge the geopolitics involved. "Without a doubt this aspect plays a role," said Khlopkov. "Russia doesn't have that many instruments with which it can influence the Mideast. We don't have any mega-infrastructure projects in the region as opposed to, say, South Korea ... So in this sense building NPPs is another way to establish long-term, strategic instruments for mutual cooperation on the region," he said, adding the Jordan was another potential regional partner for Russia (p3).

Khlopkov also pointed out that Iran will have a harder sell given that Russia's nuclear industry has a full order book, both at home and abroad, and finding skilled workers is increasingly problematic. This is why "right now we can say that Russia and Iran can agree on a joint intention for two new Bushehr units, but I would be very surprised if in the near future a contract is signed or any real work begins. The most we can expect right now is a political declaration on the two sides' interest to cooperate," said Khlopkov. ☸

Gary Peach, Riga

## IRAN Potential Rapprochement With US Boosts Nuclear Agreement Hopes

The surfeit of positive signals emanating from Tehran this week regarding a negotiated settlement with the West over Iran's nuclear program, and perhaps a broader reconciliation with the US, are not being clearly received by many diplomatic antennas in Washington. Elsewhere, though, hope is rising that a possible rapprochement between Iran and the US, together with movement by Tehran on sticking points over its nuclear program, may be shifting the diplomatic landscape.

A report published in the German magazine *Der Spiegel* this week suggests Iran's President Hassan Rohani and his foreign policy team may make a serious concession to move forward stalled nuclear talks as he prepares to visit the US next week to speak at the United Nations. But in the US deep skepticism born of bureaucratic inertia, cynicism from