Russia-Egypt Deal Faces Technical, Security Challenges But Has Political Fair Wind

By Mark Rowe and Paul Cochrane, Special to FCW

While Russia has signed an agreement to build a nuclear power plant in Egypt, a move that would give the Middle East and North Africa (MENA) region its only NPP with third generation plus technology, significant obstacles remain before operations could be launched.

Rosatom last November inked a deal with the Egyptian Nuclear Power Plants Authority for collaboration on the construction and operation of a nuclear power plant. It would be equipped with four reactors with capacity of 1,200MW each on Egypt's territory in Dabaa, on the Mediterranean coast.

The deal also included a desalination facility. Rosatom also agreed to develop Egyptian uranium deposits, which are expected to provide the raw material for the plant.

Rosatom said the project would involve Russia's most advanced power units, equipped with safety systems developed following the Fukushima accident in Japan, and of the same design as those Russia is building in China, India and Iran.

According to Rosatom statements, the intergovernmental agreement also includes issues related to providing the future plant with nuclear fuel, obligations for exploitation, maintenance works and repair of the plant's units.

While there have been no further official announcements, Shah-Nawaz Ahmad, senior advisor on India, Middle East and south-east Asia at the World Nuclear Association, said he thinks the project will go ahead.

"One, both countries are comfortable with each other. Secondly, for any country that doesn't have the finances for a NPP, the terms that Russia is offering seem to be very interesting to most people, and there are not too many layers of discussions that need to take place with (international) agencies."

Under the agreement Russia is to cover 80% of the construction costs—to be reimbursed from revenues—with Egypt to finance the rest. Ahmad said that Russia is likely to offer AES-92 reactors to bolster its reactor export plans.

There is a possibility that uranium will be sourced from Egypt, with a deposit discovered in 2013, and Russia has been invited within the agreement to assist in developing uranium extraction.

Egypt's Nuclear Materials Authority has said high concentrations of uranium was discovered at Abu Zenima, Sinai; Abu Rashid, on the Red Sea; Sila, in Upper Egypt; and the Gtar area, 70 kilometers from Red Sea town Hurghada.

These reserves have been backed by International Atomic Energy Agency statistics suggesting Egypt has reserves of 100 million tonnes of uranium-bearing phosphates, containing about 40,000 tonnes of uranium at 50-200 ppm.

Geopolitics Likely at Play

Moreover, the deal makes sense for both parties, particularly Rosatom, according to Rod Adams, an independent atomic energy expert, owner of U.S.-based nuclear information service Atomic Insights.

"Rosatom's backlog of orders exceeds $100 billion and they are signing up a bulk of customers so they can rack up production to make the orders economically viable" he said. "Rosatom is making an attractive offer to Egypt, to build and operate the plant."

The deal also helps Moscow reinforce its presence in the Middle East. "Russia has a good relationship with Egypt, it has sold it lots of weaponry and it will look at this as a way to deepen ties," Adams added.

Analysts say that other factors may be underpinning the deal. "This is not just a separate deal, this is more about geo-politics, maybe there's natural gas in the deal," said Mycle Schneider, a Paris-based international consultant on energy and nuclear policy.

In the short-term, the low price of oil presents a hurdle for Russia to get the program off the ground quickly. "I'm skeptical about Russia's ability to finance the deal right now because the price of oil—Russia's main revenue—is so low," said Adams.

"Egypt is not a particularly creditworthy nation and I don't imagine financial entities view power-purchase agreements with Egypt as really bankable."

For the program to proceed, Egypt must also move swiftly to develop its own embryonic nuclear capabilities in line with construction, said Schneider. "Egypt just does not have any basis for a nuclear program at the moment. The IAEA says any new country requires a minimum of 15 years to build up the

regulatory authority, the skills and competence required."

Meanwhile, both Russia and Egypt seem disinclined to release more comprehensive information about the project.

Despite repeated requests from *Fuel Cycle Week*, Rosatom declined to provide further details of the cost or of further technical elements of the project. And the company is not alone in being taciturn.

In December 2015, the Egyptian government imposed a formal ban on unauthorized reporting on the NPP.

"The lack of transparency—as the state imposed a gag order—signals to me that something concrete is going ahead," said Justin Dargin, a Middle East energy expert at Britain's Oxford University.

He stressed that Egypt is currently experiencing an energy shortage, with its local gas production failing to meet demand. That's why "the NPP will move forward, if only because the energy crisis right now is an impetus," Dargin observed. But this pressure may ease going forward, he said, with Egypt reforming its energy sector and aiming to resume gas exports by 2020.

"If you look at the timeframe of the NPP, Egypt should be producing from indigenous gas fields and there should be a reduction in domestic energy demand energy, so I would argue at this point that when the NPP is online, Egypt might not be in such a critical energy situation as it is today," he added.

Security concerns, however, could be another fly in the ointment. In 2012, the Egyptian Atomic Energy Authority research facility at El Dabaa was occupied and looted by local residents, with the IAEA confirming that radioactive material was stolen from the plant.

"Security is definitely a concern as Egypt is still in quite a politically volatile situation, with a lot of extremist activity by Islamist groups. Look at what happened in Algeria (in 2013), (terrorists were) able to penetrate the In Amenas gas facility, an important gas facility which should have had a more robust military-security detail," said Dargin.

continued from Paladin's Q4 Results on page 1

The firm said it remained on track to be cash flow neutral on an "all in" basis at current spot uranium price and foreign exchange rates, excluding one-off restructuring costs and capital management or strategic initiatives during the current fiscal year 2016 (July 1, 2015 to June 30, 2016).

Cash Neutrality on Track

The Q4 results were greeted enthusiastically by Dundee senior analyst David Talbot, who said that debt is falling, cash is rising and margins appear to be improving on U.S. dollar revenue and lower costs.

He noted that fourth quarter cost control was "particularly impressive" given that waste mining increased as ore throughput decreased, raising the strip ratio.

Talbot believes this should reverse as FY16 continues, and along with further optimization initiatives—including higher ore throughput after accessing a new western pit, increased plant utilization—plus a weaker Namibia dollar, should continue to help lower costs.

He also feels that "the well broadcast goal" of cash neutrality is on track at current spot prices and foreign exchange rates, excluding $6 million in restructuring costs and further "opportunistic" debt repurchases.

Dundee reiterated its C$0.50 ($0.34) per share price target for Paladin on the TSX. Talbot noted that Paladin continued to trade at a discount to its peers, providing "an investment opportunity as PDN restructures itself, builds cash, lowers debt and improves costs."

He also remains on the look out for a further strategic alliance/deal. "Don't rule out improvement via asset sale, strategic/equity partnership, or contracting. M&A speculation also abounds…"

On TSX, Paladin shares were 2.3% down at C$0.22 ($0.15) as of midday on Jan. 19. On the ASX, the stock closed at A$0.22 ($0.15), 4.4% down on the day.

This was below our Q4 2015 equities snapshot when Paladin shares traded at A$0.25 ($0.17) in Sydney (*FCW* #645, Jan. 7), although much of this was due to the jittery state of global markets since the start of the year.

FY16 Guidance to Be Adjusted

Paladin forecasts uranium sales to be in the rang of 450,000 to 650,000 pounds (204 to 295 tonnes) U3O8 in Q1 2016, a substantial drop from December.