

Nuclear cooperation agreement close for India, Canada

By Trish Saywell

For the first time in more than a quarter of a century, Canada and India are negotiating an agreement that would allow the two countries to trade in civilian nuclear equipment, technology and uranium.

But even if the two countries sign a deal in the not-too-distant future it may take Canadian companies years to make commercial headway in the Indian subcontinent due to New Delhi's outdated nuclear legislation and infrastructure, in particular its lack of an indemnity law and rules that prohibit private domestic companies from importing uranium.

Canada's relationship with India's nuclear power industry dates to the 1950s when it helped set up nuclear power projects there. But the partnership was severed in 1974 when India tested its first nuclear weapon. The warhead –according to Canada – contained spent fuel (plutonium) from a Canadian/U.S. Cirus reactor. (India denied the allegations.)

In 1992, the Nuclear Suppliers Group - an informal club of nations dedicated in part to enlisting signatories to the Nuclear Non Proliferation Treaty – decided to ban all nuclear commerce with countries that did not join the NPT as non-weapon states.

It wasn't until September 2008 at the urging of the United States that the 45-member Nuclear Suppliers Group lifted the three-decade international ban on nuclear transfers to India. (India still refuses to sign the Nuclear Non-Proliferation Treaty or the Comprehensive Test Ban Treaty.)

The following month the U.S. became the first country to sign a bilateral agreement with India, followed by Russia and France.

On Feb. 2 this year, India signed an agreement with the International Atomic Energy Agency that gives the United Nations oversight of 14 of India's civilian reactors by 2014.



The construction of India's Kudankulam Nuclear Power Project in the state of Tamil Nadu

France's Areva has already signed a US\$12.3 billion deal to sell six new-generation reactors to the Nuclear Power Corporation of India, and British, U.S., Russian and Kazakhstan companies are also trolling for business partnerships.

"France's Areva is signing up deals in India to sell their reactors and their technology – it's a strong point of encouragement for our government leaders to really accelerate the negotiation of the deal," points out Manoj Pundit, a partner at Borden Ladner Gervais law firm in Toronto, where he heads the India desk and advises on Canada-India cross-border transactions.

It remains to be seen, however, how long it will take Canada to sign a bilateral nuclear agreement. Laura Dalby, a spokesperson for the government's International Trade Media Relations Division, explained that due to the complexity of the issues involved, it was "almost impossible to predict with any degree of exactitude how long negotiations will last before an agreement is reached," but added

that both countries "share the desire for this to happen at the earliest possible opportunity."

Gerald Grandey, president and chief executive of uranium giant Cameco (CCO-T, CCJ-N), one of the world's largest uranium producers, a supplier of conversion services and one of two CANDU fuel manufacturers in Canada, told *The Northern Miner* the company was "anxious and ready to move forward."

"Both governments are working hard on advancing the agreement," said Grandey, who in January visited India on a four-day trade mission along with Stockwell Day, Canada's Minister of International Trade. "We're urging everyone to pay attention and move it along as quickly as they can."

In late January, Atomic Energy of Canada signed a memorandum of understanding with Indian engineering giant Larsen & Toubro to start cost estimates for next-generation reactors (CANDU ACR 1000 reactors) that could be sold once the two countries sign a civilian nuclear cooperation agreement.

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"Once the nuclear agreement is signed there will be tremendous opportunity for Canada not only to supply uranium as a material but to supply reactors, technology and manpower," explains Pundit of Borden Ladner Gervais. "India has plans to increase nuclear capacity fifteen-fold over the next twenty years; aiming at nuclear capacity of 60,000 plus megawatts and spending US\$80 billion. Those numbers are staggering."

At the end of the day, however, the true expenditure is likely to be far higher. In the U.S., new nuclear plants (1000-1500 MWe each) are running at about US\$7-10 billion a pop. So India's target of 60,000 MWE adds up to about 40-60 new reactors or US\$400 billion-US\$600 billion.

Figures from the World Nuclear Organization for June 2009 indicate that India currently has 17 operating nuclear reactors and six are under construction. The government has plans to build at least 23 more.

This year alone India requires 961 tonnes of uranium, or 1 million lbs., to feed its existing nuclear plants. Production lags demand, however. In 2008 India produced just 271 tonnes of uranium.

There is no question India's appetite for nuclear power will only grow. The country desperately needs electricity to sustain its 7% average annual growth rate. Currently more than 50% of the country's population does not have access to electricity, according to the Canada India Foundation.

Coal-based power plants make up more than 52% of India's power generation capacity. (By contrast nuclear power accounts for less than 3% of current installed capacity.) But increasing pressure to reduce carbon emissions and concerns over the quality of India's coal - not to mention oil security - are pushing India more forcefully toward embracing a nuclear energy strategy.

"The need for India to diversify into other energy sources stems from its increasing dependence on the import of coal, oil and gas for its thermal power plants, which currently constitute more than 63% of the total installed power generation capacity in the country," according to an April 2009

research paper published by the Canada India Foundation.

"With overdependence on thermal power, the country could hamper its aim to achieve self-sufficiency in electricity generation in the long run and will make itself dependent on other countries for fuel."

Neil Alexander, president of the Ontario-based Organization of CANDU Industries, notes business opportunities for Canadian nuclear power companies in India are vast - as they are for Canada-based uranium miners. India's known recoverable reserves of uranium in 2007 stood at about 150 million pounds, or about 1% of the world's total.

"We're all very excited about the prospects of Canada going back into business with the Indian nuclear industry," he said. "They have a whole series of CANDU-like reactors and we would like to provide goods and services for them as well as work with them on new reactors and uranium exploration and supply. They have an entirely parallel industry to ours that kind of split off in 1974 so they may have lots of ideas that may be of value to us and our ideas might be of value to them."

For companies like **Purepoint Uranium** (PTU-V, PUMGF-O), a nuclear cooperation agreement would mean Indian utility companies might want to partner or invest in junior companies like themselves.

"We're an exploration company so there's nothing preventing them from making investments in exploration," Purepoint's president and chief executive, Chris Frostad, said in an interview.

On an independent trip to India earlier this year, Frostad met with utility companies including Tata Power, JSW Energy, Reliance Energy Inc. and GMR Energy. "There seems to be such an appetite for making investments and that was our premise for going over there," Frostad said.

"A number of power companies in India have already been setting up groups in preparation for making investments in nuclear power. They can't buy Canadian uranium yet but they can invest in uranium exploration companies."

The problem, however, is that there are all sorts of practical contradictions underlying the rhetoric that India is open for business and is ready to sign commercial nuclear deals.

While there are some advanced stage efforts underway to amend the Atomic Energy Act to allow private sector participation in the nuclear industry, including the government's consideration of implementing public-private partnerships, passing any new legislation could take years in the bureaucratically challenged nation.

Under current Indian law it is illegal for private companies in the country to import uranium. And for uranium producers like Cameco who might want to enter the India market and partner with domestic companies - current laws prohibit foreign participation in the domestic uranium sector. There are also rumors that when India does sign deals to purchase nuclear reactors from abroad, contracts will include bundled fuel to go with them.

India also needs a nuclear liability law such as the Price Anderson Nuclear Industries Indemnity Act, a federal law in the U.S. passed in 1957 that governs liability-related issues for all non-military nuclear facilities. The purpose of the Act is to indemnify the nuclear industry against liability claims stemming from nuclear incidents and ensuring compensation coverage for the public. The Act (an incentive for the private production of nuclear power) establishes a no fault insurance-type system.

"All of these things have to be worked out," says a long-time nuclear industry executive based in the U.S., who requested anonymity. "These aren't things that can be done in twenty minutes." ■