All options open for new reactor

Government keeps DOOR OPEN TO NEW NRU

BY TERRY MYERS

With the NRU reactor at Chalk River set to mark 60 years of operation Friday, the federal government says it wants to keep all options open after the reactor shuts down for good at the end of next March.

In its official response to the report of a parliamentary committee studying the future of the nuclear industry in Canada, the government says it "recognizes the potential value" of a new research reactor.

But in terms of a "long-term solution" to the need for a new "high-flux neutron source," the government believes that "the full range of options for charting a way forward should be considered.'

That could mean anything from relying on "foreign facilities," to building a new "multi-purpose nuclear research reactor," to changing the focus of Canadian nuclear research to "other areas."

"Accordingly, the government is engaging with stakeholders in nuclear R&D, the broader user commu-

nity of neutron beams in Canada, and potential partners to explore the full range of possible options and models for access to high flux neutrons.

"Through these discussions, the government will seek to identify possible solutions based on partnerships that bring together federal and provincial governments, academia, industry, and international partners to support scientific research by Canadians for the benefit of Canadians."

The comments are contained in the official "government of Canada" response to a report issued this summer by the House of Commons committee on natural re-

Called "The Nuclear Sector at a Crossroads: Fostering Innovation and Energy Security for Canada and the World," the wide ranging report contained seven major recommendations.

Among those recommendations, the committee urged the federal government to "continue its support for Canadian nuclear R&D and innovation in the short, medium and long term, by... considering long-term options to provide a reliable, high-flux neutron source for Canadian re-

In its response, the government says it "agrees with this recommendation, which aligns with the (theme)... of establishing lasting partnerships across the sector to bring industry to the next level."

"Partnerships between government, academia, and industry are key to ensuring access to the facilities, support, and expertise that the sector needs advance research, development, and innovation in nuclear science and technology."

The government says it "recognizes the potential value of a new high-flux neutron source for Canadian re-

"A high-flux research reactor could enable ongoing fuel, materials and safety research to support reliable, low-cost, low-carbon electricity to power Canada and its



The National Research Universal (NRU) reactor at Chalk River will mark 60 years of operation this Friday.

economy.

"It could also support emerging opportunities, including the development of the next generation of nuclear energy technologies such as small and very small modular reactors that may be suited to providing clean energy to northern communities and remote mining installations."

IMPACTS

The government says it also recognizes that, "although the science and technology mission at Chalk River Laboratories is much broader than just the NRU reactor, its shutdown will have impacts on nuclear research and development in Canada."

"The NRU is used to test and develop fuel, produce medical and industrial isotopes, and enable materials research, including through the Canadian Neutron Beam

"As these capabilities cannot be fully replicated at other



facilities in Canada, researchers will inevitably lose access to a high-flux neutron source in Canada with NRU's closure."

When it comes to a new reactor, however, the government says all options are on the table.

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Options open for new NRU

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In the short term, research "could be maintained by securing agreements for Canadian researchers to access to high-flux neutrons sources at foreign facilities," it says.

In the medium term, "a portion of the research community's needs could be met" by expanding "neutron beamlines and operations at McMaster's Nuclear Research Reactor, which will be Canada's largest research reactor following closure of NRU."

In the longer term, "domestic access to a source of high-flux neutrons could be restored" with the construction of a "multi-purpose nuclear research reactor" or a "non-reactor, accelerator-based source."

Or maybe the money should just go somewhere else.

"The resources needed to secure access to a high-flux neutron source could be used to to build Canadian expertise in other areas of nuclear science and materials science research," the government says.

BIG SCIENCE

While a new reactor is not yet in the works, the government says it is investing in the Chalk River labs to make sure they "have the facilities and infrastructure needed to continue to be a hub for nuclear innovation in Canada."

Overall, the government will invest \$1.2 billion in Chalk River over 10 years.

"These investments are intended to create a 'big science' infrastructure for the broad benefit of all those in Canada wishing to leverage its capabilities, accessible to academics, industry experts, and others - including small companies."

"The government of Canada is committed to engaging with industry to understand their innovation, research, and development goals, and to identify how the federal government can work in partnership with industry, provinces, and academia to ensure researchers, experts, and small businesses continue to have access to the services and infrastructure they need to excel in their pur-

The federal government announced in early 2015 that NRU would be shut down for good as of March 31, 2018.

In his announcement, former Minister of Natural Resources Greg Rickford said Canadian Nuclear Laboratories will "continue to advance world-class nuclear science and technology, providing valuable expertise to government and industry."

At the same time, however, Rickford noted that "unexpected shutdowns" of NRU have resulted in "significant costs to taxpayers, including a \$114 million investment in 2009 to return it to service and an addi-

FEATURE PHOTO

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This week's photo: "Fall on the Ottawa River," by Kate Taylor.



tional \$351 million between 2008 and 2016 to ensure safe and reliable operations."

Speaking to members of the Canadian Nuclear Safety Commission later that year, former president and CEO of CNL Dr Bob Walker said the company could maintain its "core capabilities" for a "gap period" of up to 10 years after the shutdown of NRU in 2018.

"Certainly we have had a large research reactor at Chalk River for decades, and so a period of time without a research reactor will require adjustment," Walker told commission members.

But Walker also reminded commission members that while NRU is important, CNL has other "centres of excellence."

"We have many, many other important dimensions that are the backbone of this industry, and the fact that we have significant investments coming forward by the government of Canada to maintain those capabilities is also recognized and valued...

"The question on a research reactor, I think, is a matter for going forward."

EXPENSIVE

Last spring, the new president and chief executive officer of Atomic Energy of Canada Ltd, Richard Sexton, told a public meeting in Deep River that AECL is "building a science future" at Chalk River in partnership with CNL.

"In 10 years we hope to have and we will have a new science and technology campus.

"This will be a site that attracts the best and the bright-

\$149,900

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est, a site that people will want to come to," he said.

But CNL will have to do it without the NRU reactor, Sexton added.

During a brief public question period, Sexton said the decision to close NRU at the end of March 2018 was a government decision based largely on cost.

"The NRU is a 60-year-old reactor. It's difficult at times to maintain and expensive to operate," he said.

"All of the federal family understands that NRU will shut down (next year). We have to move on."

"Sixty years is a long time for any facility and especially a reactor. You should be proud that you got 60 years out of it."

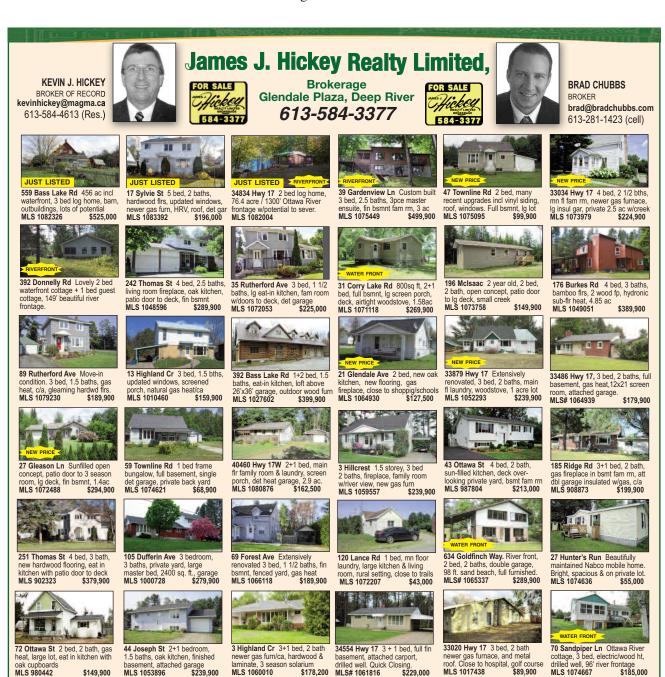
He said making the decision the way the government did has allowed for NRU to be shut down in "an organized way" rather than as the result of a crisis situation.

"I'm sure many would not want to see it happen but it makes sense from my point of view."

As far as going back to the government to lobby for NRU to remain open, Sexton said that's not going to hap-

"All of the federal family understands that NRU will shut down (next year)," he said.

"That was a decision made by the government before I was here. We have to move on."



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