Remarks by:	Delivered to:
Diane Cameron, Director **Nuclear Energy Division** **Natural Resources Canada** **Government of Canada**	**International Framework for Nuclear Energy Cooperation (IFNEC)** **Ad-hoc Nuclear Supplier and Customer Engagement Working Group (NSCCEG)** **Paris, France** **Tuesday November 7, 2017**

- Good afternoon. My name is Diane Cameron. I am the Director of the Nuclear Energy Division in the Department of Natural Resources in the Federal Government of Canada. With me today is Mr. Talha Riaz, Strategic Sourcing Manager for SNC-Lavalin, vendor of Canada's CANDU reactor technology. Unfortunately, Mr. Facundo Deluchi, National Director of Nuclear Policy for Argentina's Ministry of Energy and Mining, was delayed and cannot be here with us this afternoon.

- In our IFNEC session this afternoon Mr. Talha Riaz and I will lead you through a short case study of the successful relationship between Canada and Argentina in building and sustaining Argentina's civil nuclear program, touching on the supply chain lessons learned from two nuclear projects undertaken jointly by Canadian and Argentine stakeholders.

- They key takeaway from this presentation is that the relationship between customer and supplier countries is one that is long-term. Beyond the initial construction of a reactor, there is support for training programs, supply chain localization, exchange of information between regulators, commercial R&D cooperation, etc. Canada and Argentina, including our industries, regulators, and labs, have a long history of collaboration, which started back in the 1970s.

- The trust established between the two countries involved in this type of strategic transaction is of considerable importance, and continued engagement at all levels is key to success. As we all know, there is something characteristically different about doing business the nuclear energy sector – an incident or issue anywhere has reputational effects on the sector everywhere.

- Accordingly, it is imperative that we actively engage and share information on our respective programs, including between our regulators and operators, to ensure a safe fleet of reactors worldwide.

- Before handing the microphone to my friend and colleague from SNC Lavalin, I'd like to provide you with a short outline of our discussion today.

- First, I'll provide some context on the broader government role in facilitating nuclear commerce, before providing a short history of the Canada-Argentina nuclear relationship, including our two joint reactor projects.

- Next, Mr. Talha Riaz will discuss CANDU technology in more depth, comment on the Argentine nuclear program, and discuss the supply chain specifics for CANDU's nuclear interests in Argentina.

- We had hoped that Mr. Facundo Deluchi would be here to offer additional depth on Argentina's nuclear history, and specific insights on supply chain issues and lessons learned relating to the two bilateral projects. We will do our best to address these issues in his absence.

- With that outline in mind, I will now begin with a few high-level comments on how Canada sees the role of government in the nuclear supply chain.

- In short, we in government are variously supply chain facilitators and participants.
- On one hand, we are responsible providing the structure for bilateral nuclear engagement. At the highest level, this includes the treaties that ensure our nuclear engagements abide by international nuclear security, safeguards, non-proliferation and safety standards. Bilaterally, this takes the form of binding Nuclear Cooperation Agreements.
- We are also actively involved in facilitating engagement between laboratories, regulators, policy leaders, and industry organizations. This happens through establishing Memoranda of Understanding that further articulate the specific areas of mutual interest for bilateral cooperation between regulators, labs, policy makers, industry leaders and supply chains.
- We establish annual action plans of concrete activities and create an annual reporting cycle for briefing up to the highest levels of government as appropriate – this is an essential framework for keeping the political decision-makers informed on the scope of work being done by the full breadth of Canada's the nuclear sector – at home and in key bilateral relationships.
- Governments can also be involved in establishing the terms of sale between two countries – for example, where reactor vendors are state-owned enterprises. This was the case in Canada's original reactor sale to Argentina in the 1970s.
- Argentina began exploring nuclear as a source of power in the mid-1960s, bringing its first reactor, Atucha-1, online in 1974. Nuclear's advantages relative to other energy sources were clear at the time, given that the 1973 oil shock had left many countries looking for ways to reduce their dependence on fossil fuels. In 1973, Argentina contracted its second nuclear power station, at Embalse, to Atomic Energy of Canada Limited (or, AECL).
- Very briefly, on AECL:
    - AECL is a Government of Canada state-owned Crown corporation, and up until 2011 had a for-profit reactor division that exported Canada's reactor technology – pressurized heavy water reactors known as CANDU reactors – worldwide. Today, CANDU reactors are operating in seven countries around the world.
    - As part of a broader Government of Canada effort to restructure our domestic nuclear institutions, AECL sold its reactor business to SNC-Lavalin in 2011. Mr. Talha Riaz, here with me today, represents SNC-Lavalin's nuclear division, Candu Energy Inc.
- Back to the Canada-Argentina partnership timeline: Starting in 1974, at Embalse, AECL built a 600 MWe CANDU-6, the first successful Canadian export of CANDU reactor technology. Commercial operations began in January 1984.
- I'd like to highlight a few of the dynamics that were unique to this partnership:
    - As a heavy water reactor running on natural uranium fuel, AECL's CANDU design was compatible with Argentina's lack of domestic enrichment infrastructure.
    - The CANDU design afforded substantial domestic participation in construction.

    - The terms of AECL's offer included technology transfer to Argentina, meaning that Argentina would be able to replicate the reactor within its own borders.

- The latter two points, in particular, laid the foundation for a strong program of localization in Argentina. I will leave it to Mr. Talha Riaz to speak to these points in more detail in his presentation.

- I would like to emphasize that the relationship between Canada and Argentina did not stop once the Embalse reactor construction was finished. Indeed, Embalse is currently being refurbished to extend its operating life by 25 years and boost its power output. Candu Energy Inc is actively involved in this process, under contract for the work since 2011.

- Moving from Embalse to the second project to be discussed today, in 2014, NASA and Chinese partners announced agreements to build a pressurized heavy water reactor at the Atucha site.

- The AECL-built CANDU-6 reactors at Qinshan in China will serve as reference units for Atucha-3, and Candu Energy Inc. will serve as a key contractor.

- Argentine and Chinese leads signed additional contracts in May of this year, with the intent to begin construction of the Atucha-3 Enhanced CANDU 6 unit next year.

- With that context, I will pass the floor to Mr. Talha Riaz of SNC-Lavalin to speak more specifically to the projects I've mentioned, including supply chain dynamics and lessons learned.