

June 6, 2002

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: Janice Dunn Lee, Director */RA/*
Office of International Programs

SUBJECT: VISIT OF ROBERT VAN ADEL, PRESIDENT AND CHIEF
EXECUTIVE OFFICER, ATOMIC ENERGY CONTROL LIMITED
MONDAY, JUNE 10, 2002

Mr. Robert Van Adel, President and Chief Executive Officer of Atomic Energy Control Limited (AECL) of Canada, will visit the NRC on Monday, June 10, 2002. The purpose of his visit is to introduce the Commission to AECL's new ACR-700 reactor prior to formally launching it in the U.S. market on June 24.

Attached are the meeting schedule, biographical information, country summary and background information. Because the AECL has indicated that it will approach the staff to request a Standard Design Certification Pre-Application Review, specific talking points for the meeting have not been included.

Attachments: 1. Vice Chairman's NRC Schedule
2. Biographical Information
3. Country Summary
4. Background Information on the ACR-700

cc: SECY
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**VISIT TO NRC OF
MR. ROBERT VAN ADEL
PRESIDENT AND CEO
ATOMIC ENERGY CONTROL LIMITED OF CANADA**

JUNE 10, 2002

SCHEDULE:

11:00 a.m. Courtesy call on Chairman Meserve
11:30 a.m. Courtesy call on Commissioner Dicus
1:45 p.m. Courtesy call on Commissioner Merrifield
2:15 p.m. Courtesy call on Commissioner McGaffigan

BIOGRAPHICAL INFORMATION:

(Attachment 2)

ACCOMPANYING PERSONS:

David Torgerson, Senior Vice President, AECL
Victor Snell, Director of Licensing, AECL
Roger Gale, GF Energy (Washington Office)

DISCUSSION TOPICS TO BE RAISED:

The purpose of the visit is to introduce the AECL's new ACR-700 reactor prior to formally launching it in the U.S. market on Monday, June 24, 2002

BIOGRAPHY ON ROBERT VAN ADEL

Mr. Robert G. Van Adel is President and Chief Executive Officer of Atomic Energy of Canada Limited (AECL). He is an experienced senior executive with a history of successful leadership, performance, and innovation. He was most recently President of AMEC AGRA Engineering Inc., a group of international companies specializing in engineering and construction services. He began his career at the Anti-Inflation Board and moved to the Export Development Corporation in 1976, where he held increasingly responsible positions primarily in export financing. He was Executive Vice President of Financial Services when he left the public service in 1994 for a senior executive position with the AGRA group of companies, which merged with AMEC in April 2000. Mr. Van Adel has served on a number of boards, most recently the Transportation Association of Canada, the Canadian Council for Public-Private Partnerships, and Canatom NPM Inc. He received his Bachelor of Commerce and his Master of Arts in Public Administration from Carleton University.

CANADA NUCLEAR PROGRAM

NUCLEAR POWER REACTOR

Three utilities (New Brunswick Power, Ontario Power Generation, and Hydro Quebec) account for some 92% of the electricity generated in Canada. The balance is provided by some 60 industrial self generators and a few independent power producers (IPPs).

In this energy mix, these utilities operate 21 pressurized heavy water (PHWR) nuclear power generating stations, generating 15,149 MWe. Nuclear accounts for 16.4% of Canada's energy mix. No additional nuclear plants are planned or under construction.

NUCLEAR FUEL CYCLE

Canada has an extensive nuclear fuel cycle and has commercial scale conversion, fuel fabrication, and heavy water production facilities. It is by far the world's largest uranium producer.

WASTE MANAGEMENT

The overall regulation of nuclear reactor waste is the responsibility of the Canadian Nuclear Safety Commission (CNSC).

Low-level waste is compacted and incinerated to reduce volume, and then stored in concrete buildings located on the reactor site.

Canadian reactors produce more than 60,000 used fuel bundles each year. After online and remote control removal from the reactor by fueling machines, used fuel bundles are stored on-site to cool. The spent fuel pools have a 15-20 years of storage capacity. After about 10 years, and the bundles have cooled, they are transferred to dry storage facilities. The dry storage containers have a design life of 50 years. Options for long term storage are still being studied; however, a start date of 2034 was set to begin the deep geological storage of high level wastes.

RESEARCH AND DEVELOPMENT

Atomic Energy Control Limited (AECL) is Canada's premier nuclear research organization. Its main facility, the Chalk River Laboratories, is located 120 miles northwest of Ottawa. The Commission has visited AECL facilities.

NUCLEAR REGULATORY STRUCTURE

On May 31, 2000, the Nuclear Safety Control Act established the Canadian Nuclear Safety Commission (CNSC). It replaced the Atomic Energy Control Board that was established in 1946. Its mission is to regulate the use of nuclear energy and materials to protect health, safety, security, and the environment. This includes controlling the import and export of nuclear materials.

NON-PROLIFERATION

Canada is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and has an agreement with the IAEA for the application of full-scope safeguards to its nuclear program. It also subscribes to the Nuclear Suppliers Group (NSG) Guidelines, which set forth standards for the responsible export of nuclear commodities for peaceful use, and to the Zangger (NPT Exporters) Committee Guidelines, which oblige members to require the application of IAEA safeguards on nuclear exports to non-nuclear weapon states. It is a party to the Convention on Physical Protection of Nuclear Material.

RELATIONS WITH THE NRC

Bilateral Arrangements and Agreements

Canada ranks among the closest and most important U.S. partner in civil nuclear cooperation, with ties dating back to the early days of the Atoms for Peace Program.

The original NRC/Canadian safety arrangement, signed on June 21, 1989, at the Canadian Embassy in Washington, was originally renewed for a five-year period on August 15, 1996. On May 29, 2002, Ms. Linda Keen, President of the Canadian Nuclear Safety Commission visited the NRC and signed a new five-year renewal of the NRC-CNRC bilateral safety arrangement.

NRC (NRR and RES) collaboration under the arrangement is very active. On June 1, 2000, NRR Director Samuel Collins met with the CNRC to initiate annual bilateral discussions. There is also an active dialog between the NRC and the CNRC on nuclear facility security.

Trilateral

In February 2002, representatives from Canada, Mexico, and NRC (NMSS and OIP) met in Washington to discuss matters related to illicit and lost nuclear materials and radiation sources. Other discussion topics included:

- institutional control for large volumes of long lived radioactive material;
- joint Convention on spent fuel and radioactive waste management; and
- additional items to be determined by the Canadians and Mexicans.

This was the first such trilateral meeting for the three regulatory bodies. All parties found the meeting to be very useful and agreed to meet on an annual basis (Mexico offered to host the next meeting in 2003).

Recent Commission Visits

Commissioner Merrifield, August 2000
Chairman Meserve, June 2000
Chairman Jackson, February 1999

Foreign Assignees

There have been no requests by the Canadian government to place assignees with the NRC. However, there is regular contact between the NRC and CNSC technical staff. In addition, CNSC staff attend training at the NRC Technical Training Center in Chattanooga, TN.

NRC Licensed Exports

NRC licensed exports to Canada have included HEU and LEU materials and fuel components. No Part 810 cases have been reviewed for Canada in the last several years. However, in 1999 there was a DOE distribution of MOX test samples to Canada for a one-time test as part of the PARALLAX Program (an investigation into the feasibility of using CANDU reactors to burn surplus US and Russian military PU.)

BACKGROUND INFORMATION

ACR-700

- The ACR-700 is an “evolution” of AECL’s current 700 MWe class CANDU 6 design, now under construction in China and Romania. Using innovative construction techniques developed there, AECL has been able to significantly reduce construction time, and lower costs for the ACR-700.
- By moving from heavy water to light water cooling and using slightly enriched uranium fuel, the new reactor is much less expensive than today’s reactors.
- The overnight capital costs for twin units is US\$1,000/kWe and the levelized cost is U.S.\$30/MWh.
- The ACR-700 also features enhanced safety and plant security and AECL is studying additional post-9/11 changes.
- About 75% of the plant’s major components are identical to those in the PWR.

Marketing and Deployment

- AECL is working with Dominion, Entergy, and Exelon to familiarize them with the ACR-700 and to have it included in their early site permit applications.
- AECL has identified sites in Canada, linked to the U.S. transmission grid, where construction of a Canadian-licensed unit could be underway by 2006 in partnership with British Energy and, potentially, U.S. utilities.
- ACR-700 is also a candidate for British Energy’s reactor replacement plan in the U.K.
- If design certification is achieved in the U.S., the first unit could be under construction in 2008.
- AECL is the designer of the CANDU reactor and performs the fundamental R&D.
- AECL is a global leader in the reactor services business, supporting customers over the complete life cycle of the reactor—from commercially-funded R&D, to design, to construction, to operation and management services, to waste management and decommissioning.
- There are currently 31 CANDU reactors around the world.
- AECL has maintained an active construction program and since 1990, has started construction of seven CANDU 6 reactors worldwide, with four completed and three units under construction—all on time and on budget.
- Based in Washington, DC, AECL Technologies Inc. is a subsidiary of Atomic Energy of Canada Limited (AECL) headquartered in Mississauga, Ontario.