

November 17, 2003

MEMORANDUM TO: Chairman 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  
TUESDAY, NOVEMBER 18, 2003

Mr. Robert Van Adel, President and Chief Executive Officer of Atomic Energy Control Limited (AECL) of Canada, will visit the NRC on Tuesday, November 18, 2003. The purpose of the visit is to follow-up on the Chairman's request to see Mr. Van Adel and AECL executive management on a more frequent basis. Mr. Van Adel intends to provide the Chairman with an update of AECL's activities in the U.S. He would also like to discuss the current ACR-700 Pre-Application Review status and schedule.

Attached are the meeting schedule, biographical information, and country summary.

CONTACT: C. Rosales Bush, OIP  
415-1168

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| NAME   | C. Rosales Bush | E. Doroshuk | E. Baker | J. Dunn Lee |
| DATE   | 11/17/03        | 11/17/03    | 11/ /03  | 11/17/03    |

**OFFICIAL RECORD COPY**

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

**November 18, 2003**

**SCHEDULE:**

10:00 a.m. Visit with James Dyer, Director of NRR  
10:45 a.m. Visit with Chairman Diaz

**BIOGRAPHICAL INFORMATION:**

(Attachment 2)

**ACCOMPANYING PERSONS:**

David Torgerson, Senior Vice President, AECL  
John Polcyn, President, AECL Technologies Inc. (U.S.)

**DISCUSSION TOPICS TO BE RAISED:**

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## **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 COUNTRY PROFILE**

### **Nuclear Power**

Three utilities (New Brunswick Power, Ontario Power Generation, and Hydro Quebec) account for some 92 percent 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 percent 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 MOU, signed on June 21, 1989 at the Canadian Embassy in Washington, was last renewed for a five-year period on August 15, 1996. The current bilateral has expired, but both sides agreed to continue cooperation until a renewal can be signed.

NRC (NRR and RES) collaboration under the MOU is very active. On June 1, 2000, NRR former Director, Samuel Collins met with the CNSC to initiate annual bilateral discussions. Since then, CNSC and NRC staff have been working closely on the Pre-License Application Review of AECL's ACR-700 reactor, which AECL hopes to market in the U.S.

In 2003, CNSC representatives met with NRC (NSIR) and discussed nuclear facility security. More recently, the CNSC requested the participation of an NRC Inspector in their inspection of the Pickering Nuclear Power Station (Ontario). The CNSC is also expected to participate in NRC inspection activities as well.

### **Trilateral**

The First Trilateral meeting between Canada, Mexico and NRC was held at NRC Headquarters in February 2002. Representatives from the three agencies discussed matters related to illicit and lost nuclear materials and radiation sources.

The Second Trilateral meeting was held in Puerto Vallarta, Mexico on May 1-2, 2003. Delegates from each agency expressed their interest continuing the annual meetings. The topics discussed by the three agencies included: Control and security of sealed sources, Trans-boundary shipments, Country perspectives on the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management; Developments in security requirements for facilities and transportation, Convention on the Physical Protection of Nuclear Materials, Operational experiences, and Emergency Management.

The next meeting will be hosted by the CNSC in Ottawa and is scheduled for Spring of 2004. Expected topics to be discussed are: Decommissioning experience and regulatory developments; Status on experience relating to Additional Protocol (to IAEA Safeguards

Agreement); Developments in “Risk Informed”/ “Risk Based” approaches for non-reactor nuclear regulatory activities; and Experience with stakeholder involvement, successes and lessons learned.

### **Recent Commission Visits**

Chairman Diaz, 2003  
Commissioner Merrifield, 2003  
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.)