



AECL EACL

The Power of Partnership

Notes for Remarks by Robert Van Adel, President & CEO, AECL

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Thanks Rod. **Bonjour chers collegues. Il me fait plaisir d'être ici avec vous aujourd'hui, et surtout avec mes amis Rod, Pierre et Duncan.**

It's always my preference to let the customer have the last word – especially Duncan because he is so eloquent. But being last up means I can at least show my customers that I *get* their message. And since I think I *do* get their message, I will start referring to my fellow panellists as CANDU Partners, rather than 'customers' -- because we are *all* partners in the nuclear business.

One thing I have learned after three intense years in this business is that the success of one member of our industry is shared by all. But unfortunately, the opposite holds equally true.

So my theme today is the *need* for powerful CANDU Partnerships to ensure success, and *how* we can make them happen. In other words, what we need to *do* as a team to implement competitive nuclear energy solutions... *how* we as an industry can improve ourselves ... *how* we as Team CANDU can take on our critics, communicate effectively with average Canadians, and convince politicians to support CANDU as part of a secure energy future.

But first, let me congratulate Duncan and Pierre and their utility teams on the return to service of three CANDU reactors. Thanks to their efforts, Ontario's grid is strengthened with the addition of over 2,000 megawatts of clean, safe nuclear energy. I am also delighted by Duncan's recent announcement regarding a feasibility study for building AECL's Advanced CANDU Reactor at Bruce, and a refurbishment study for Bruce 1&2.

It is also good news, as Rod notes, that the government of New Brunswick will be making a decision regarding refurbishment of Lepreau this year, as will Korea Power regarding Wolsong 1.

Now let me turn to some of the successes we have been experiencing at AECL. First and foremost, AECL and its partners Hitachi, Bechtel and SNC-Lavalin-Canatom -- supported by hundreds of Canadian suppliers -- *once again* delivered two CANDUs under schedule and on budget, this time in China.

While a great achievement in itself, the successful completion of the Qinshan project is timely in helping to further improve the CANDU industry's reputation for *not* overrunning on cost or schedule. The result is that our industry's credibility as an effective implementer of electricity solutions just got a lot higher.

In fact, AECL and its CANDU partners have now built five CANDU power plants *on time and on budget* in the past decade, and we are currently completing a sixth in Romania. How did we do this? And how can we transfer our track record of success -- and a winning project model -- to Canadian refurbishments and new builds?

There are several answers, including: having appropriate partners who assume the project risk they are best suited to ... seamless integration of the owner into the project right from the start ... having the right project structure for each job, with strong project leadership and clear accountability... and, building a standardized CANDU product. These are the prerequisites for success.

From our recent experience offshore, we believe a major benefit of having international partners is the strategic leverage gained for Canadian utilities and suppliers.

Having *several* first-class engineering and technology firms -- with world scale -- can help increase market share for CANDU. This generates more contracts and business for *hundreds* of Canadian SMEs, who supply us with sophisticated equipment and professional services. The other key benefit of a successful, global Team CANDU is that this proven expertise is now hard at work for *Canadian* customers -- taking on full-scope project responsibility with AECL.

Perhaps our most important repatriation was bringing Ken Petrunik and members of his veteran CANDU Team back to Canada after Ken's great leadership in completing the \$4 billion China project.

Let's take a quick look at AECL's international track record starting with Korea. AECL built Wolsong 1 on a turnkey basis, entering service in 1982 and going on to be a top world performer many times over. For the follow-on three CANDU 6 units at Wolsong, AECL assumed the Prime Contractor role with nine major contracts or sub-contracts. All three follow-on CANDU 6 units at Wolsong were brought in on time and on budget.

For China, our turnkey project management model included AECL as general contractor, with Hitachi, Bechtel and SNC-Lavalin-Canatom as main sub-contractors to AECL. The project broke records in every category for successful construction milestones. The partnering model had a lot to do with it. Everyone knew who was in charge, and everyone clearly knew their responsibilities and accountabilities.

In Romania, we are using a project model where AECL is Project Director, and the Romanian customer is Deputy Project Director, as is Ansaldo of Italy, our construction partner. This partnership was used to successfully complete Romania Unit 1, once AECL took control of the project. Unit 2 is now about two-thirds complete, with in-service scheduled for 2007.

In New Brunswick, AECL and NB Power have jointly developed an innovative refurbishment project model. Our goal is to minimize the risk of refurbishing Point Lepreau. How do we do this? By doing **all** the necessary up-front walk-down and detailed planning first, **before** the plant is taken out of service. Most importantly, complete integration of the owner in the project consortium's execution plan was our fundamental operating principle.

For the past three years, AECL and NB Power have worked together as CANDU partners on **pre-project preparation** to ensure smooth refurbishment. This included:

- A top-to-bottom Plant Condition Assessment
- A Comprehensive and Integrated Execution Plan
- Clear Contracts, Firm-Price Scope, Guaranteed Schedule
- Full-scale Re-tubing Mock-up, Tooling and Simulation training for key staff
- A Project Control System for procedures and electronic documents
- A 'Lessons Learned' review of other Projects, as well as CNSC and Independent Reviews
- An oversight board of senior managers from NB Power/AECL.

The components for successful refurbishment are all now in place -- **with** the owner's full involvement. How is this the case?

First, the detailed planning, cost estimating and budgeting are all complete. Second, AECL is the *single* company responsible for the project on a *turnkey* basis – just like our China project. This includes overall project management, planning, scheduling, cost control, documentation control, material control and quality.

AECL will also select, contract with and manage the performance of subcontractors ...we will perform all engineering, procedures and safety analysiswe will do all the procurement, procurement engineering and equipment supply. Finally, AECL will manage all construction, site infrastructure, installation, testing, inspection and start-up, with the owner.

AECL has full confidence in this refurbishment project because: we have the right integrated project structure and refurbishment organization; the plant itself is in good shape; and, NB Power has invested in maintenance and improvements on an ongoing basis. Plus, AECL designed the CANDU 6 power plant. We know it inside out. After Lepreau, we built 10 more standardized CANDU 6 reactors like it, in five other jurisdictions.

So my message is that AECL and our CANDU partners are now ready to apply our deep product knowledge in Canadian projects. We have brought home our successful international project leaders and their large-project expertise -- *to blend their strengths* with our domestic capability in refurbishment and new-build for New Brunswick, Ontario

and Quebec. Together, we have all the know-how and how-to expertise needed to get the job done.

We are very confident that a refurbished Lepreau will operate reliably and profitably for NB Power for another 25 to 30 years, as will refurbished units at Pickering and Bruce.

We will increase plant efficiencies by retrofitting older CANDUs during refurbishment with the latest technical enhancements, computer-based control systems and other technologies, such as Smart CANDU. Older CANDUs have proven that they can indeed maintain the high capacity factors CANDU is known for.

But the most important ingredient in any project is not the technical, but the people aspects. In this regard, we are also in good shape since AECL's partnership with NB Power, for example, is founded on 30 years of mutual support and trust.

[Finally, our level of confidence for successful refurbishment rests upon the solid operating performance and robust design of CANDU. Since inception 22 years ago, for example, the CANDU 6 has been the world's top workhorse, and this chart says it all.

Expanded, improved and strengthened CANDU partnerships are the key to seizing the opportunities before us to make the most of the CANDU renaissance, which is happening right now. But *how* do we make it happen? I believe we have to do many things at the same time.

We must continue improving ourselves as high performing organizations. We need to leverage our strengths across the industry – as individuals and companies. We have to pool scarce human resources, and nourish the next CANDU generation. We must focus on our own particular competitive advantage, and do what we are good at -- whether as utility, engineer or constructor – *leaving it to other CANDU partners* to provide expertise beyond our core competence. We need to engage our employees and unions as dedicated, co-operative partners in joint-venture solutions, or flexible project and services entities to better serve CANDU customers.

At AECL, we are preparing to implement refurbishment and new-build solutions by bringing home our CANDU “A Team”, as mentioned. We have also begun a serious company change-management process. How are we doing this? We are doing it by focussing our people on improving CANDU customer satisfaction, which means consistently meeting customer expectations regarding quality, delivery and price.

We have ramped up our quality and safety programs. We have surveyed our customers in depth, and we have held candid focus groups with employees to find out how best to improve ourselves. We have learned that having employees who identify personally with the success of their company is the *most powerful* part of partnership. It is the individual’s performance which directly impacts upon customer satisfaction, and therefore drives corporate results. As a result, we are changing our recognition and reward system, where incentives are tied to increasing customer satisfaction and meeting financial commitments.

By working hard to make ourselves better, AECL is positioning itself to be successful *with you* – we want to be your leading CANDU partner in the new wave of nuclear refurbishment and expansion. And leadership from all of us in this room will be in high demand.

Above all, our industry needs to come together in a new spirit of CANDU partnership. We have to stop squabbling amongst ourselves. We need to set aside old rivalries and bad feelings from past decades. We must focus our substantial energies on the task at hand – the rebuilding of the CANDU fleet in Canada and around the world. This is crucial not only to meet rising demand for electricity, but to avert power shortages. As we saw last August, nothing is more critical than electricity.

In summary, to seize the future and make the most of the CANDU renaissance, we all need to:

- Change ourselves and change the way we relate to each other as CANDU partners. By that I mean re-thinking our roles. For example, utilities focus on operating excellence of their CANDU assets ... while the preferred suppliers of Team CANDU deliver turn-key, fixed-price nuclear solutions and services to utilities on a cost-effective, integrated basis

- Building a robust energy foundation for a competitive 21st Century economy also means partnerships with governments and financial institutions. Provinces can provide market support -- so generators can raise billions for new plants. The nuclear utility takes operating risk for new reactors, while AECL and CANDU consortium partners take project risk, which we have proven we can manage very well. The federal role would be to continue to backstop AECL, and continue to fund ACR design work, so it can be ready for commercial deployment in a few years. We also need Smart Regulation on a joint federal-provincial basis to streamline approvals.
- In terms of non-business issues, which have real impacts on our success, the nuclear industry *must do more* to publicly communicate its strong benefits. This is not a new message, but communication remains central to building greater public acceptance and government support for expanding CANDU as part of a diverse mix of electricity options.
- But how do we do this? As CANDU partners, we must continue to aggressively take on the critics who misinform Canadians through the media. We also have to get our message out to the *average* Canadian – and focus less on the 20 per cent or so who are against everything. One thing which is very clear to me from my own speaking engagements is that the more people know about the nuclear industry, the more reasons they find to support it.

- Continuing on my “speaking out and speaking up for CANDU” theme, I must congratulate Minister John Efford on his strong public support for AECL and the Canadian nuclear industry. He is setting the example for all politicians. How do we build more political support? We do it by every company and individual in our industry taking the time to write, call or meet with elected representatives.

We can convince governments that the CANDU solution is the right one *only* by articulating our strong value proposition *ourselves*. We all have to take the time to brief opinion leaders in our communities about the benefits of nuclear, and especially our proven waste management solutions, countering those who continue to misinform about public safety risks.

We have many persuasive facts in our favour to correct myths about our industry:

- Nuclear *has* the safest track record of any industry.
- We *are* a major climate change solution. CANDU plants avoid 100 million tonnes of air pollution every year. And using nuclear as a steam solution in the Alberta oil-sands will cut national emissions substantially, while maximizing Canada’s oil production.
- We *are* a successful, \$6 billion/yr industry, with 30,000 skilled people in over 150 leading Canadian companies.
- Canada *is* a world leader in nuclear medical products, easing human suffering and prolonging life for millions.
- Nuclear waste *is* safely managed, and we *have* waste solutions.

- CANDU *is* a success story as one of Canada's science & engineering achievements, providing half of Ontario's power and generating \$100 Billion in clean power to date.
- CANDU *is* attractive to private investors, and well-managed plants are generating good returns for companies such as TransCanada and Cameco.
- CANDU *has* large economic and employment benefits – 26,000 PYs of quality work and \$2B in profitable contracts from the China sale alone.
- AECL *has developed, and is still developing*, the world's best reactor, and CANDU is one our few hi-tech exports. The ACR has good prospects in the US, where a leading utility has already listed it as preferred technology
- Young people *should* be interested in a career in nuclear *because it's future is limited only by our society's understanding of its potential*.
- CANDU *will* play a major role in manufacturing hydrogen, and beyond ACR there is the Generation IV Super Critical Water Reactor.

Clearly, we are on the verge of some of the most promising developments for the nuclear industry we have seen in decades. *Clearly*, we have in Canada and with our international CANDU partners, what it takes to be successful. And, equally clearly to me, what it takes to win is the *power* we all harness from strong **Partnerships**.

Thank you.