



Submission to the Minister of Energy, Brad Duguid

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Delivered by: The Ontario Society of Professional Engineers, Energy Task Force

AECL Restructuring Effects on Industry

At a meeting on April 1, 2011 the Minister of Energy was advised that the nuclear sector in Ontario is beginning to lay off staff because they are not able to wait indefinitely for new AECL work. AECL has not been able to negotiate major new work because the sale/restructuring has been slow and is now on hold in light of the federal election. AECL also appears to be preparing to lay off some contract staff in light of the freeze on taking on any new major contracts before the new government is formed.

Arising from that meeting, OSPE has collected information on how the industry is affected. The negative impacts could be mitigated if the Minister of Energy could request Ontario Power Generation (OPG) and Bruce Power to accommodate the industry by advancing engineering studies, preliminary engineering, R&D and procurement of long lead components for the refurbishment projects. In its review, OSPE contacted Atomic Energy Canada Limited (AECL), the Organization of CANDU Industries (OCI), and the Canadian Nuclear Association (CNA). Generally, it is agreed that delays in restructuring AECL will have long-term negative implications affecting not just the nuclear industry and its suppliers, but also on many inter-sector relationships, representing in total over 60,000 jobs in Ontario.

As reported in a July 2010 study, *The Economic Benefits of Refurbishing and Operating Ontario's Nuclear Reactors* by the Canadian Manufacturers & Exporters, the refurbishment of nuclear facilities at Bruce and Darlington will create 25,000 jobs in the next decade (2014 - 2024), injecting \$5 billion annually into Ontario's economy. For engineering alone, salaries and wages to refurbish each reactor amount to \$225 million, with 2,000 to 3,000 employees of all types on-site over the decade. The annual economic impact of the refurbishment program in Ontario is estimated at a total of \$2.5 billion. This affects 9,000 jobs and \$996 million in labour income. However, the delay in restructuring AECL has made 2011 a difficult year for the industry and the situation is expected to worsen during 2011 and 2012. With both the federal and Ontario elections in 2011, the uncertainty related to major nuclear projects is not expected to improve significantly until late in 2012 due to the time lag required to finalize new major contracts after the elections are completed.

Both the federal and provincial governments are expecting the restructuring of AECL to "position the nuclear industry in Canada to seize domestic and global opportunities"; however there is no plan in place to ensure this will happen. In the Conference Board of Canada's 2009 report, *The Economic Impact of New Nuclear Investment in Canada*, the government stated its intention to "maximize Canada's investment in nuclear technology, create highly skilled and high paying jobs in Canada, [and] expand engineering, construction, manufacturing and trades jobs." When coupled with Ontario's investment in the Darlington project, the restructuring is intended to help kick-start CANDU exports and generate economic wealth.

These benefits will not be achieved unless all stakeholders work together, and if AECL is not restructured correctly, achieving this objective will not be possible. The demise of AECL may affect both the \$6.6 billion domestic nuclear sector as well as the \$1.2 billion in exports. As reported in the Financial Post in January 2011, for exports "that also means suppliers will likely see their business

gradually dwindle if no new CANDU reactors are built and existing ones begin to shut down. Without the survival of AECL's reactor business, Canada's \$1.2-billion in nuclear exports might be significantly less than that in a decade -- if exports occur at all".

Job Loss and Uncertainty

AECL is an asset to Canada. Employing over four thousand, AECL is one of the largest employers in the field of research and development and natural sciences and engineering. Investment in the nuclear industry has a major impact on small communities dependent on the nuclear industry including bringing prosperity and increasing property values. During periods of reduced nuclear employment or stagnation within the industry, these small communities experience severe recessions and declines in property values. Because nuclear industry jobs typically are at the high end of industrial wages, a loss of nuclear jobs is more severely felt by these small communities than the loss of other typical industrial jobs. Also, many nuclear industry jobs are held by individuals with post-secondary education. These individuals tend to leave their community when they lose their jobs, leading to further loss of economic activity and downward pressure on real estate values. Delays in restructuring the organization are leading to uncertainty regarding the future of employment in the sector, including valuable high-knowledge jobs and intellectual property. Since the restructuring was announced, AECL has not been able to pursue major contracts and its budgets have been kept to a minimum, leading to downsizing of operations and laying off of personnel.

Impacts on the Supply Chain

The slowness of the federal government's restructuring of AECL is having a major impact on over 160 companies that are members of the Organization of CANDU Industries (OCI) and other stakeholders. The concern OCI has is that once AECL is restructured and the Darlington project gets underway along with the planned refurbishments (10 announced by the province as part of their long-term energy plan) the nuclear supply chain will not be in a position to respond quickly. As presently planned, most of the contracts associated with these mega projects will not impact OCI members for at least two years; as such, a plan is necessary to maintain Canada's nuclear capability until it is needed. Cooperation between the suppliers, customers, other stakeholders and all levels of government is necessary to help ensure there is sufficient engineering, R&D and manufacturing work to fill in the 2 year gap created by the delayed federal government restructuring of AECL.

Inter-sector Effects

In addition to nuclear energy, AECL is engaged in a variety of work in related fields and its restructuring may impact various long-standing inter-sector relationships, including medical, research, physicists, automotive testing, and manufacturing. These impacts are felt beyond Ontario's borders including into Quebec, Saskatchewan, and British Columbia where projects look to Chalk River to provide core infrastructure and critical mass in knowledge management and resources. These relationships can potentially be jeopardized by restructuring efforts, which can become an obstacle in the valuable work they perform.

Education Effects

AECL's Chalk River laboratories currently serve as a nuclear research hub where graduate students, academics, chemists, and physicists alike assemble to engage in research and development. Uncertainty surrounding the future of investment in this core infrastructure can negatively impact their work and future. Universities could see declining enrolments in nuclear engineering, and engineers may not be available when the industry becomes active again. Graduate students interested in pursuing a future in nuclear research may be disinclined to do so, with increasing ambiguity about the sector.

Summary

The delays in restructuring AECL along with its impact on new contracts and Ontario's new build program is placing a major strain on the industry. Without meaningful nuclear work, many of the experienced nuclear supply chain members, those who were largely responsible for AECL's success in Korea, China and Romania will not be able to weather the two years until large projects begin again. The problem will be further compounded by demographics of the nuclear industry, as many experienced people will retire or be forced to leave due to lack of business before replacement employees are trained. This will likely have a major negative impact on the timing and budget of future nuclear projects.

Accordingly, if Ontario Power Generation and Bruce Power can assist AECL and the OCI network of nuclear and related suppliers by advancing engineering studies, preliminary engineering, R&D and procurement of long lead components for the refurbishment projects, the interests of the industry, economy, and long term success of Canada's nuclear industry will be assured.