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Cameco Updates Production Outlook for Cigar Lake

Saskatoon, Saskatchewan, Canada, May 31, 2016

Cameco (TSX: CCO; NYSE: CCJ) announced today that the Canadian Nuclear Safety Commission (CNSC) has approved an application by AREVA Resources Canada Inc. (AREVA) to increase the annual licensed production capacity of the McClean Lake milling operation to 24 million pounds of uranium concentrate (U_3O_8).

Ore from Cameco's Cigar Lake mine is milled and packaged at the McClean Lake operation which is majority owned and operated by AREVA. Approval of AREVA's application permits Cameco to meet its 2016 Cigar Lake production outlook of 16 million packaged pounds of uranium concentrate (Cameco's share 8 million pounds). Prior to the approval, the McClean Lake mill's operating licence had an annual production limit of 13 million pounds.

The Cigar Lake mine is expected to reach its full annual production of 18 million pounds (Cameco's share 9 million pounds) in 2017.

The Cigar Lake mine is owned by Cameco (50.025%), AREVA Resources Canada Inc. (37.1%), Idemitsu Canada Resources Ltd. (7.875%) and TEPCO Resources Inc. (5.0%) and is operated by Cameco.

Profile

Cameco is one of the world's largest uranium producers, a significant supplier of conversion services and one of two Candu fuel manufacturers in Canada. Our competitive position is based on our controlling ownership of the world's largest high-grade reserves and low-cost operations. Our uranium products are used to generate clean electricity in nuclear power plants around the world. We also explore for uranium in the Americas, Australia and Asia. Our shares trade on the Toronto and New York stock exchanges. Our head office is in Saskatoon, Saskatchewan.

Caution Regarding Forward-Looking Information and Statements

The statements regarding Cameco's expectation concerning production at Cigar Lake in 2016 and 2017 are "forward-looking information" or a "forward-looking statement" within the meaning of Canadian and U.S. securities laws. This information is based upon a number of assumptions that, while considered reasonable by management, are subject to significant uncertainties and contingencies. We have assumed that: our Cigar Lake development, mining and production plans succeed, the jet boring mining method works as anticipated, and the deposit freezes as planned; modification and expansion of the McClean Lake mill are completed as planned and the mill is able to process Cigar Lake ore as expected; there is no material delay or disruption in our plans as a result of ground movements, cave-ins, additional water inflows, a

failure of seals or plugs used for previous water inflows, natural phenomena, delay in acquiring critical equipment, equipment failure, performance of the water treatment system, or other causes; there are no labour shortages; there are no labour disputes during the collective bargaining process with unionized employees at the McClean Lake mill; we and AREVA obtain contractors, equipment, operating parts, supplies, regulatory permits and approvals when needed; and that our mineral reserves estimate and the assumptions it is based on are reliable. This forward-looking information also involves known and unknown risks, uncertainties, and other factors that may cause actual results and developments to differ materially from those expressed or implied. They include the risks: that an unexpected geological, hydrological or underground condition or an additional water inflow delays or disrupts our plans; of natural phenomena, labour disputes during the collective bargaining process with unionized workers at the McClean Lake mill, equipment failure, performance of the water treatment system, delay in obtaining the required contractors, equipment, operating parts and supplies or other reasons cause a material delay or disruption in our plans; that our development, mining or production plans for Cigar Lake are delayed or do not succeed, including as a result of any difficulties with the jet boring mining method or freezing the deposit to meet production targets, or any difficulties with the McClean Lake mill modifications or expansion or milling of Cigar Lake ore; and that our mineral reserves estimate is not reliable. Please also see our most recent annual information form, annual MD&A and quarterly MD&A for other risks and assumptions relevant to the forward-looking information in this news release. We are providing this forward-looking information to help you understand management's views regarding Cigar Lake and McClean Lake and it may not be appropriate for other purposes. Cameco does not undertake any obligation to update or revise forward-looking information, whether as a result of new information, future events or otherwise, except to the extent legally required.

Qualified Person

The above scientific and technical information related to the Cigar Lake mining operation was approved by Les Yesnik, general manager, Cigar Lake, who is a qualified person for the purpose of National Instrument 43-101.

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Contacts

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