ACTION ITEM

DATE RECEIVED: 05/11/00	**CORRESPONDENCE DATE**: 05/09/00
TICKET NUMBER: LTR-00-0317	
AUTHOR/REQUESTER & AFFILIATION: Paul Leventhal	**ADDRESSEE**: Richard Meserve
SUBJECT: Followup Letter to Comm's 1/27/00 Response re: Implementation of the Comm's Order on Export of Bomb-Grade, Highly Enriched Uranium (HEU) Targets to Canada for Production of Medical Isotopes	
ACTION: Prepare response for Chairman Signature - Commission Correspondence	

DUE DATE: May 25, 2000	**ASSIGNED TO**: BLW	**COPIES**: JDL/RDH/MRP

COMMENTS: ERIDS = SECY-05 OWNER = OIP, SECY, OCM
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OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

Date Printed: May 10, 2000 16:25

PAPER NUMBER:	LTR-00-0317	**LOGGING DATE:**	05/10/2000
ACTION OFFICE:	OIP		

AUTHOR:	PAUL LEVENTHAL
AFFILIATION:	NCI
ADDRESSEE:	RICHARD MESERVE
SUBJECT:	FOLLOWUP LETTER TO COMM'S 1/27/2000 RESPONSE RE IMPLEMENTATION OF THE COMM'S ORDER ON EXPORT OF BOMB-GRADE, HIGHLY ENRICHED URANIUM (HEU) TARGETS TO CANADA FOR PRODUCTION OF MEDICAL ISOTOPES
ACTION:	Signature of Chairman
DISTRIBUTION:	RF, SECY TO ACK
LETTER DATE:	05/09/2000
ACKNOWLEDGED	No
SPECIAL HANDLING:	RESPONSE SHOULD BE COORD WITH THE OGC....COMM REVIEW
NOTES:	OCM #2485
FILE LOCATION:	ADAMS

DATE DUE:	05/25/2000	**DATE SIGNED:**	

2485

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May 9, 2000

The Honorable Richard Meserve
Chairman
U.S. Nuclear Regulatory Commission
One White Flint North Building
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Meserve,

We are writing to follow up our earlier letter to you of December 17, 1999, and your response of January 27, 2000, regarding implementation of the Commission's order on export of bomb-grade, highly enriched uranium (HEU) targets to Canada for production of medical isotopes.

As you know, in its order of June 1999, the Commission directed the applicants, Nordion, Inc. and Atomic Energy of Canada, Ltd, to submit within three months a study addressing the feasibility of modifying its New Production Facility (NPF) to accommodate low enriched uranium (LEU) targets. Specifically, the Commission directed that the feasibility study "consider whether minor modifications could be made prior to the MAPLE reactors and their processing facility coming on line that would permit the use of LEU targets, or take other reasonable measures that would at least preserve the opportunity to move to LEU targets in the future." This was intended to facilitate the phase out of U.S. HEU exports, as required by the U.S. nonproliferation law known as the Schumer Amendment.

Last month, the applicants finally submitted the feasibility study to the Commission – ten months after it was requested, seven months after it was supposed to be delivered, and less than two months prior to scheduled start-up of the NPF, slated for June 2000 according to a recent press report.[1] The Commission made public a redacted version of the feasibility study this week.[2] In many respects, the study is responsive to the NRC's order, in that it examines whether conversion to LEU targets would require any modifications to the NPF. It finds that the only significant modification necessary would be to the waste-handling portion of the facility, in order to accommodate the higher volume of liquid uranium waste arising from the processing of LEU targets. The study says that two types of modification could solve this problem: (1) adding a supplementary waste-processing cell; or (2) changing the process in the existing cell to handle the higher volume in the same space. The study also reports a minor modification that could be made prior to start-up in order to facilitate subsequent implementation of the first option. A pipe could be built from the existing waste-processing cell to an outer wall. Then, after start-up, a supplementary waste processing cell could be built and connected to the pipe to process excess waste arising from the processing of LEU targets, without interrupting isotope production.

[1] Ray Silver, "Isotope Reactor Goes Critical," *Nucleonics Week*, February 24, 2000.

[2] MDS Nordion Inc., "Report in Response to the Nuclear Regulatory Commission's Request that Argonne National Laboratory Prepare a Study of the Technical Feasibility of Converting the Maple Reactors and the New Processing Facility to Use LEU Rather than HEU Targets," submitted to the NRC, April 17, 2000.

Strategies for stopping the spread and reversing the growth of nuclear arms.

Paul L. Leventhal, *President*, Peter A. Bradford, David Cohen, Julian Koenig, Sharon Tanzer, Roger Richter, Dr. Theodore B. Taylor
BOARD OF DIRECTORS

Despite this responsiveness to a part of the Commission's order, the applicants have totally rejected the Commission's primary intent, which was to ensure that the applicants take actions in the short run to facilitate future conversion to LEU targets. The applicants reject implementing either of the two possible modifications to the waste handling portion of the NPF prior to start-up, either of which could permit future conversion to LEU targets without interrupting production. They reject modifying the existing waste cell on grounds that "any changes to the in-cell processing equipment would require a lengthy development program and would cause substantial delay in completing and operating the NPF." (pp. 5-6.) They reject even the minor pre-start-up modification of adding a pipe leading from the existing waste-processing cell – which could substantially reduce the future cost and interruption associated with attaching another waste-processing cell in the future – on grounds that the "safeguards and nuclear code issues alone would have required a minimum delay of at least six months in the completion of the NPF, at a significant cost." In any case, the applicants also appear to reject outright the option of building a supplementary waste processing cell because its "construction costs are substantial in relation to the cost of the New Processing Facility," making it "not an attractive solution." (p. 7, and Annex, p. 6.)

Thus, the applicants have rejected implementing any modifications prior to start-up that could facilitate subsequent conversion to LEU targets. If the applicant were permitted to start up the facility prior to such modifications, its case against future modifications would grow only stronger, because the associated costs and production-interruptions would be higher after the facility is radioactive and Canada's existing isotope production facility is shut down.

The fact is that implementing either of the two possible modifications *after* start-up would necessarily interrupt production of isotopes. If the equipment in the existing waste cell were modified after start-up, production would halt. Alternately, if a supplementary waste cell were connected to the piping inside the existing waste cell after start-up, production would halt. Nordion and AECL are sure to argue against such future modifications on grounds that the supply of vital medical isotopes would be interrupted. By this logic, they never would convert to LEU targets.

Moreover, Nordion and AECL have rejected even the minor costs and delays associated with adding a pipe prior to start-up, which could greatly reduce the costs and interruptions associated with subsequent modifications after start-up to convert to LEU targets. If they are unwilling to take steps now that would reduce the costs and interruptions associated with subsequent modifications, it is clear indication they have no intention of making those future modifications. In addition, their claim that the six months supposedly necessary to build and obtain regulatory approval for the pipe would delay start-up of the NPF is extremely misleading. Had the applicants submitted the feasibility study when it was due, in September 1999, and then immediately started work on this minor modification, they could have obtained regulatory approval and installed the pipe by March 2000, well before the planned start-up of the NPF in June 2000.

Most important, if modifications were made prior to start-up, there would be no interruption in the supply of medical isotopes because isotopes could continue to be produced in the applicants' existing NRU facilities. The existing NRU targets could be irradiated in either the existing NRU reactor or the new MAPLE reactors, then processed in the existing NRU processing facility. In the meantime, modifications could be made to the NPF. Once these modifications were completed, the NPF could commence operations using LEU targets, or if not yet available start with HEU targets and subsequently convert to LEU targets without any interruption in production. Thus, it is the applicants who are putting at risk the supply of medical isotopes by refusing to make modifications prior to start-up.

The only way for Nordion and AECL to convert to LEU targets in the future without disrupting production of isotopes is to make the modifications prior to start-up –or at least to add a pipe prior to startup and then build a supplementary waste cell after start-up. Anything else would result in the

applicants perpetually claiming to require HEU targets to avoid an interruption in the supply of medical isotopes. By refusing to make any modification prior to start-up, the applicants are effectively precluding the possibility of future conversion to LEU targets. This flies in the face of the Schumer Amendment requirement that to qualify for export of HEU targets there needs to be an active program to convert to LEU targets. Indeed, if the applicant refuses to make modifications prior to start-up to keep open the realistic prospect of subsequent conversion to LEU targets, we believe the Commission is compelled under the Schumer Amendment to suspend the applicants' export license.

We urge you to make clear to the applicants the necessity of their implementing modifications prior to start-up that would keep open the realistic possibility of future conversion to LEU targets. We also urge you to make this a precondition of the applicants continuing to receive HEU from the United States, which is intended under the Schumer Amendment to be only a stopgap measure during conversion to LEU.

We would welcome the opportunity to meet with you to discuss this matter. Thank you for your consideration.

Sincerely,

Alan J. Kuperman

Alan J. Kuperman
Senior Policy Analyst

Paul Leventhal

Paul L. Leventhal
President

Cc: Senator Charles E. Schumer
NRC Commissioners