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Before the
UNITED STATES NUCLEAR REGULATORY COMMISSION
Washington, D.C. 20555

In the Matter of	)	
	)	
TRANSNUCLEAR, INC.	)	Docket No. 11005070
	)	
(Export of 93.3% Enriched Uranium)	)	License No. XSNM 03060
	)	

PETITION OF THE NUCLEAR CONTROL INSTITUTE FOR LEAVE TO INTERVENE AND REQUEST FOR HEARING

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Pursuant to Section 189a. of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2239(a), and Section 304(b) of the Nuclear Non-Proliferation Act of 1978, 42 U.S.C. § 2155a. (the "NNPA"), and the applicable rules and regulations of the United States Nuclear Regulatory Commission (the "Commission"), including 10 C.F.R. Part 110, Subparts H and I, the Nuclear Control Institute ("NCI" or "Petitioner") hereby respectfully petitions the Commission for leave to intervene as a party in opposition to the following export license application:

The Application of Transnuclear, Inc. ("Applicant"), dated October 30, 1998, for a license to export 130.65 kilograms of

93.3% enriched uranium to Canada for fabrication of target material, as published in the Federal Register on December 1, 1998 (63 Fed. Reg. 66208).

In addition, Petitioner requests that the Commission order a full and open public hearing at which interested parties may present oral and written testimony and conduct any discovery and cross-examination necessary to resolve the factual and legal issues relevant to the Commission's determinations with respect to the pending license applications. Such a hearing would be in the public interest and assist the Commission in making its statutory determinations under the Atomic Energy Act, as provided for by Section 304(b) of the NNPA, 42 U.S.C. § 2155a., and 10 C.F.R. § 110.84.

I. Petitioner's Interests

Petitioner is a nonprofit, educational corporation, organized and existing under the laws of the District of Columbia, whose principal place of business is also in the District of Columbia. Its address and telephone number are: 1000 Connecticut Avenue, N.W., Suite 804, Washington, D.C. 20036; (202) 822-8444. It is actively engaged in disseminating information to the public concerning the proliferation, safety and environmental risks attendant upon the use of weapons-useable nuclear materials, equipment, and technology. It develops strategies for halting the further spread of nuclear weapons and is deeply concerned with the inadequacies of present national and international systems for minimizing the use of such nuclear materials and safeguarding them against theft, diversion and other unauthorized uses.

NCI has undertaken special efforts to educate the public about the feasibility and desirability of eliminating bomb-grade (or "highly enriched") uranium ("HEU") from commerce in general and research reactors in particular and has strongly advocated the completion and full implementation of the Reduced Enrichment for Research and Test Reactors ("RERTR") program. Examples of its publications in the area include the January, 1991, Issue Paper, "Eliminating Bomb-Grade Uranium From Research Reactors";

its June 23, 1991, Washington Post "Outpost" article, "Politicians in the Lab . . . and Scuttling an Easy Way to Stop Nuclear Proliferation"; its September 1995 Issue Paper, "RERTR at the Crossroads: Success or Demise", circulated at the International Meeting on the RERTR Program in Paris, France; its October 1997 Issue Paper, "RERTR End-Game: A Win-Win Framework", presented to the International Meeting on the RERTR Program in Jackson Hole, Wyoming, October 5-10, 1997; and its October 1998 Issue Paper, "HEU Core Conversion Of Russian Production Reactors: A Major Threat To The International RERTR Regime," presented to the International Meeting on the RERTR Program in São Paulo, Brazil. NCI has been a constant supporter of the RERTR program in testimony presented before the Advisory Committee on Reactor Safeguards and Congressional appropriations and authorization committees. It participated in the Department of Energy's proceedings to take back and dispose of U.S.-origin HEU spent fuel from foreign research reactors and in the Commission's own rulemaking to require conversion of licensed, domestic research reactors to non-weapons-useable fuel. It has been active in prior proceedings before the Commission relating to the export of HEU, specifically the proposed export of HEU to the HFR/Petten Reactor in the Netherlands (Dkt. No. 11004440, Lic. No. XSNM 02611) and the proposed export of HEU from the Fort St. Vrain reactor to France for reprocessing (Dkt No. 11004649, Lic. No. XSNM 02748).

NCI also petitioned for leave to intervene in opposition to the immediately previous license requests for HEU exports to Canada (Dkt. No. 11004997, Lic. No. XSNM 03012; and Dkt. No. 11004998, Lic. No. XSNM 03013). In those cases, the Commission explicitly acknowledged NCI's unique expertise and the valuable role NCI played in the Commission's consideration of the proposed licenses, stating:

> NCI has, in effect, obtained the end result -- Canadian cooperation permitting an active LEU target development program for the Canadian reactors -- that it appears ultimately to be seeking. We wish also to point out that our review of these export applications was significantly aided by NCI's participation, albeit not in a formal hearing context. Indeed, our decision regarding the consistency of the proposed exports with the statutory criteria was made only after requesting additional information -- prompted in large part by the concerns highlighted by NCI -- from the Executive Branch.[1]

Petitioner has important institutional interests which would be directly affected by the outcome of these proceedings. As noted above, it is actively involved in public information and education programs concerning arms control, the spread of nuclear weapons, and the risks of proliferation and nuclear terrorism in general and the use of HEU in particular. Its interest and ability to carry out these functions would be significantly and

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[1] "NRC Memorandum and Order," June 5, 1998.

adversely impaired by the absence of a full, open and independent review by the Commission of the issues raised under the Atomic Energy Act and the NNPA by the pending license applications.

Petitioner has no other means to protect its interests in these proceedings, and those interests are not now represented by the existing parties. This Petition, moreover, is not interposed for delay or to broaden the proper scope of the proceedings. With respect to the first license application, it is timely filed, within 30 days of the publication of notice of the license application in the Federal Register, as required by 10 C.F.R. § 110.82(c)(1).

II. Background

For many years, HEU has been used in the civil sector primarily to fuel research and test reactors around the world. It has also been used for the fabrication of target material for the production of medical isotopes, particularly Technetium-99m, which is a decay product of Molybdenum-99. However, its risks have likewise long been recognized. There have therefore been substantial efforts to curtail its use by substituting low-enriched uranium ("LEU"), which is not weapons-useable, capable of providing the same civilian benefits without significant economic penalty.

The risks associated with the circulation of HEU in commerce are self-evident. HEU was the material used in the Hiroshima bomb (Little Boy). According to the late J. Carson Mark, former head of weapons design at Los Alamos National Laboratory and a consultant to NCI, a "competent group" could build an implosion weapon with as little as about twelve kilograms of this material.[2]

Consequently, HEU is an attractive target for national diversion or seizure by terrorists. Indeed, the late Manhattan Project physicist Luis Alvarez once noted, "[W]ith modern weapons-grade uranium ... terrorists, if they had such materials, would have a good chance of setting off a high-yield explosion, simply by dropping one-half of the material on the other half."[3] Furthermore, the possession of this material in the hands of a Saddam Hussein or in a country such as Romania or the former Yugoslavia during a breakdown of civil order, or by terrorists who steal such material, would present a grave international threat. Unless quantities of HEU in commerce are substantially reduced, or eliminated, such risks are only likely to grow.

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[2]Mark, "Some Remarks on Iraq's Possible Nuclear Weapon Capability In Light of Some Known Facts Concerning Nuclear Weapons" (Nuclear Control Institute, May 16, 1991), at 2.

[3]Alvarez, Adventures of a Physicist 125 (Basic Books 1987).

In recognition of the problems associated with continued reliance on HEU in research reactors, the United States instituted the RERTR program in 1978. Under the leadership of Argonne National Laboratory ("Argonne"), this program has been developing high density, LEU fuels and targets -- material not suitable for fabrication into weapons but suitable for use in research reactors -- thereby allowing conversion to LEU and much reducing the amount of HEU in commerce. Its results have been impressive: the RERTR program has developed, tested, and qualified four types of LEU fuel "which make it technically possible to convert to LEU use some 95 percent of the 118 research reactors in 34 countries (36 in the United States and 82 in other countries)."[4] Of the 42 research reactors with power of at least one megawatt that were originally supplied with HEU fuel by the United States, 37 either have converted to LEU, are in the process of converting, or have no further need for fuel.[5]

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[4]ERC Environmental and Energy Services Co., Review of the RERTR Program (Report submitted to the U.S. Department of Energy, May 15, 1990), at 3-3.

[5]Three of the remaining reactors, two in France and one in Belgium, cannot yet convert, although one of the French reactors, the HFR reactor at the Laue-Langevin Institute (ILL) in Grenoble, is studying conversion and has pledged to convert when suitable LEU fuel is qualified. (Ann MacLachlan, "U.S. May Resume HEU Fuel Supply as France's ILL Studies Conversion," Nuclear Fuel, November 30, 1998.) Operators of the two others, the FRJ-2 reactor in Germany and the Safari I reactor in South Africa, so far have declined to convert to available, non-weapons-useable fuel. The European Union's HFR/Petten reactor in the Netherlands recently indicated its intention to convert to available LEU fuel. (J. Guidez, et al., "Status in 1998 of the High Flux Reactor Fuel

Following the lead of the RERTR program, fifteen large new research reactors constructed since 1980 have been designed to use LEU fuel, including reactors in Japan, South Korea and Indonesia and two in the United States. China recently joined this international consensus by designing its next research reactor to use LEU fuel.[6]

U.S. policy has also been strongly in favor of reducing use of HEU. Thus, the Commission itself for more than fifteen years has sought to "reduc[e], to the maximum extent possible, the use of HEU in ... foreign research reactors." See 47 Fed. Reg. 37007 (August 24, 1982). The same Policy Statement affirms that "any reduction in the potential for access to these [HEU] inventories would constitute a reduction in the proliferation risk." Moreover, domestically, the Commission has since 1986 been requiring all licensed research reactors to convert to LEU. See 51 Fed. Reg. 6514 (February 25, 1986). In taking this action, the Commission asserted that the "domestic conversions are intended to be put on solid footing by setting a strong, resolute

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Cycle," presented to the 21st International Meeting on RERTR, São Paulo, Brazil, October 18-23, 1998.)

[6]Shi Yongkang, et al., "The China Advanced Research Reactor Project", and Yuan Luzheng, et al., "Preliminary Study of Core Characteristics for the Scheduled CARR", presented at the Fifth Meeting of the Asian Symposium on Research Reactors, Taejon, Korea, May 29-31, 1996.

and sensible example, consistent with U.S. national policy, to encourage foreign operators of non-power reactors to convert to the use of LEU fuel." Id. at 6516.[7] In recognition of such policies, in 1995 the United States abandoned plans for a new HEU-fueled research reactor, the Advanced Neutron Source, at least partly because the bomb-grade fuel presented "a non-proliferation policy concern."[8]

In 1986, Congress first acted specifically to curb the risks associated with commerce in HEU. It passed the Omnibus Diplomatic Security and Anti-Terrorism Act, calling upon the President "to take, in concert with United States allies and other countries, such steps as necessary to keep to a minimum the amount of weapons-grade nuclear material in international transit." See Omnibus Diplomatic Security and Anti-Terrorism Act of 1986, Pub. L. No. 99-399, Sec. 601(a)(3)(A) (August 27, 1986).[9] Under this legislation, HEU exports were limited only to

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[7]Commission policy, it should be noted, has reflected the consistent views of the Executive Branch that it is important to U.S. non-proliferation policy to minimize the amount of HEU in international commerce. See Presidential Non-Proliferation Policy Statement of April 7, 1977, 13 Weekly Comp. Pres. Doc. 507 (April 11, 1977); U.S. Nuclear Non-Proliferation and Cooperation Policy (July 16, 1981), 17 Weekly Comp. Pres. Doc. 769 (July 20, 1981); 1991 Annual Report under Section 601 of the NNPA, 22 U.S.C. § 3281 (July 2, 1992), at 77.

[8]U.S. Department of Energy, "DOE Facts: A New Neutron Source for the Nation" (February 1995).

[9]Congress previously passed resolutions supportive of

those countries "... which have cooperated closely with the U.S. in the Reduced Enrichment for Research and Test Reactors (RERTR) Program. Exports have further been limited to supply of only those research reactors which either cannot be converted at present to LEU fuel or which need additional HEU fuel while in process of conversion to LEU." 1991 Annual Report Under Section 601 of the NNPA, 22 U.S.C. § 3281 (July 2, 1992), at 77. Finally, Section 603 of the 1986 law added a new Section 133 to the Atomic Energy Act, 42 U.S.C. § 2160c., specifically requiring Commission consultation with the Secretary of Defense concerning the adequacy of physical security in connection with any proposed export or transfer of HEU.

Executive Branch efforts to reduce HEU use. See S.J. Res. 179, 97th Cong., 1st Sess. (July 27, 1981); S. Con. Res. 96, 97th Cong., 2d Sess. (May 27, 1982).

Most pertinent to the pending license applications, Congress again dealt with commerce in HEU in Title IX, Section 903, of the Comprehensive National Energy Policy Act, Pub. L. No. 102-486, 106 Stat. 2944, enacted October 24, 1992 (the "Schumer Amendment"). The Schumer Amendment added a new Section 134 to the Atomic Energy Act, 42 U.S.C. § 2160d., which limits the circumstances in which any HEU can be exported for use as a fuel or target in a research or test reactor. As its principal author stated, "[T]his bill codifies once and for all that bomb grade uranium is simply too dangerous to continue indefinitely shipping it overseas for non-military purposes". 138 Cong. Rec. H. 11440 (daily ed., Oct. 5, 1992). Under the Schumer Amendment, no HEU exports are permitted for use in a research or test reactor unless three conditions are met:

> (1) there is no alternative nuclear reactor fuel or target enriched in the isotope 235 to a lesser percent than the proposed export, that can be used in that reactor;
>
> (2) the proposed recipient of that uranium has provided assurances that, whenever an alternative nuclear reactor fuel or target can be used in that reactor, it will use that alternative in lieu of highly enriched uranium; and
>
> (3) the United States Government is actively developing an alternative nuclear reactor fuel or target that can be used in that reactor.

42 U.S.C. § 2160d.(a)(1)-(3). It was expected that, under the Schumer Amendment, all HEU exports could be phased out "within 5 years," assuming the RERTR fuel/target development program were restarted. In the absence of continued funding for the RERTR program, the only option would be to "cut off the bomb-grade exports immediately." See 138 Cong. Rec. at H. 11440 (Statement of Rep. Schumer).

The Commission's regulations fully incorporate the requirements of the Schumer Amendment. They provide that no HEU may be exported unless the Commission determines that:

> (A) There is no alternative nuclear fuel or target enriched to less than 20 percent in the isotope U-235 that can be used in the reactor;
>
> (B) The proposed recipient of the uranium has provided assurances that, whenever an alternative nuclear reactor fuel or target can be used in that reactor, it will use that alternative fuel or target in lieu of highly-enriched uranium; and
>
> (C) The United States Government is actively developing an alternative nuclear reactor fuel or target that can be used in that reactor.

10 C.F.R. § 110.42(a)(9)(i). In accordance with 42 U.S.C. § 2160d.(b)(3), the Commission's regulations further define the phrase "can be used" to mean that (A) the fuel or target has been

"qualified" by the RERTR program and (B) "Use of the fuel or target will permit the large majority of ongoing and planned experiments and isotope production to be conducted in the reactor without a large percentage increase in the total cost of operating the reactor." 10 C.F.R. § 110.42(a)(9)(ii).

The HEU at issue in these proceedings is not intended to be used as reactor fuel but rather as target material for the production of medical isotopes, e.g., Molybdenum-99, the precursor of Technetium-99m. The material covered by the first application is intended for use in the Maple 1 and Maple 2 reactors being constructed by Atomic Energy of Canada Ltd. ("AECL") at its Chalk River Nuclear Laboratories in Chalk River, Ontario. The need for this material is uncertain. Applicant states in NRC Form 7, item number 25, that the proposed export of a five-year supply of HEU is necessary and justified because "LEU targets cannot be considered available for use" until completion of several steps that "collectively require at least five years," an assertion subject that is unsubstantiated and subject to question. Indeed, progress now being made by Argonne in developing LEU targets strongly suggests that with the requisite Canadian cooperation, LEU targets could be available for use in the Maple reactors in less time.

Technetium-99m "is the most commonly used medical

radioisotope ... relied upon for over nine million medical procedures each year in the U.S. alone, comprising over 70% of all nuclear medicine procedures."[10] Because it has typically been produced through the fissioning of HEU targets in research reactors, developing targets and chemical processes for producing this isotope using LEU has been an "important component" of the RERTR program.[11] Within the RERTR program, substantial progress has been made, and experimental results continue to show the technical feasibility of converting current HEU processes to LEU.[12]

An array of alternative, target development activities is underway at Argonne.[13] However, NCI, based upon its participation in the recent São Paulo, Brazil meeting and discussions with Argonne officials, understands that these do not include actively developing an LEU target which can be used in the Maple reactors at Chalk River, which are identified in the

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[10] See Snelgrove, et al., "Development and Processing of LEU Targets for 99Mo Production", Proceedings of the Topical Meeting on Advances on Nuclear Fuel Management, Myrtle Beach, South Carolina, March 23-26, 1997.

[11] Id.

[12] C. Conner, et al., "Progress in Developing Processes for Converting 99Mo Production from High- to Low-Enriched Uranium--1998", Paper presented at the International Meeting on the RERTR Program, São Paulo, Brazil, October 18-23, 1998.

[13] See Snelgrove, et al., supra; Conner, et al., supra.

license applications as the eventual users of the newly-qualified HEU targets. A significant outstanding technical issue is whether the LEU foil targets being developed at Argonne are compatible with the chemical dissolution and separation process currently used by Canada for extracting Mo-99 from irradiated HEU targets. It is NCI's understanding that Canadian authorities take the position that their process is not compatible with the LEU targets under development at Argonne.

At the same time, NCI understands that a principal impediment to development of useable LEU targets is the absence of the requisite information and cooperation from Canadian authorities that are needed for an active development program to proceed. Upon information and belief, Canadian authorities have not provided Argonne with the information necessary to verify claims of incompatibility and to identify problems that require resolution to make it possible for Argonne actively to pursue an alternative LEU target development program for the Canadian reactors. Nor have Canadian authorities granted requests from Argonne staff to travel to Chalk River and observe the Canadian process. The failure of Canada to provide needed information and cooperation renders nugatory any assurances it may have made that it would convert the reactors to LEU use upon development of

suitable LEU targets.[14]

Such failure to provide information and cooperation has been detailed most recently in a report by Argonne National Laboratory, dated November 13, 1998, based on a visit of Argonne officials to Canada to meet with officials of AECL and MDS Nordion, which has title to operate the facilities for isotope production. The report states: "The meeting was concluded without any exchange of information that would allow the RERTR program to begin work on the development of an LEU target/process that could be used at AECL." Despite subsequent promises, "the information has not yet been received." Until such information is received, "ANL could do no useful work to assist in the establishment of an LEU process at AECL."[15]

The report emphasizes that to reduce the cost of subsequent conversion to LEU targets, the Canadian process line should be modified prior to becoming radioactive, "(i.e., before it began operation with HEU.) After that event, scheduled for the summer of 1999, every change would be more time-consuming and costly."

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[14]Although at the time of a previous license Canada stated that it intended to "[p]hase-out HEU use by 2000," nonetheless it now appears, given Canada's proposed development of a new HEU target, that this promise may not be fulfilled.

[15] "Trip Report for a Visit by ANL Personnel to MDS Nordion on November 5, 1998," Argonne National Laboratory, November 5, 1998, available in NRC's Public Document Room.

The current lack of cooperation by Canadian officials makes it less likely the process line will be modified prior to becoming "hot," creating financial impediments to future conversion to LEU. Thus, current lack of cooperation makes future conversion to LEU less likely.

The report further notes that AECL personnel have stated they will cooperate only "on a commercial basis," at an hourly rate "estimated at $200 (Canadian)." The applicant's response to NRC Form 7, item number 25, also states that AECL and MDS Nordion will provide information and services "on a commercial basis." The report states further that AECL believes that "work done in the past should also be paid for," including basic information necessary for a preliminary evaluation of the feasibility of conversion. Upon information and belief, AECL subsequently has communicated to Argonne its insistence on being compensated not only for future cooperation but for past work, if any future profits are derived from information provided by AECL on the basis of past work.

Such demands for financial compensation for cooperating with the RERTR Program's efforts to reduce international HEU commerce are unprecedented, to the best of NCI's knowledge, and call into question the previous commitments of Canadian officials to

cooperate in development of LEU targets, and the Commission's early conclusion that " . . . Canadian principals are acting in good faith toward concluding a formal agreement to complete the LEU target development program linked to the Canadian reactors."[16] Indeed, Canada already has reneged on an earlier commitment to a "phase-out" of HEU use by the year 2000, which provided the basis, in part, for approval of License No. XSNM-02667. See J.B. Slater, "The Program on Future HEU supply for AECL's Radioisotope Production Operation" (December 1990)

Despite Canada's failure to fulfill past commitments, the applicant requests export of a five-year supply of HEU on the basis of new Canadian commitments. If the license were approved and the HEU exported, the United States effectively would lose control of the HEU. If Canada then reneged on its latest commitment to convert, or simply ceased or hindered cooperation on development of LEU targets, the Schumer Amendment effectively would have been circumvented. Alternately, if Canada lived up to its commitments and LEU targets were developed, qualified, and licensed faster than expected, Canada would retain a surplus of HEU fuel that could provide a disincentive for conversion and needlessly increase risks of nuclear proliferation and nuclear terrorism. More likely, approval of the proposed license to

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[16] "NRC Memorandum and Order," June 5, 1998.

export to Canada a supply of HEU sufficient for five years would serve as a disincentive to Canada's cooperating in development of LEU targets before then, and needlessly perpetuate HEU commerce.

Commissioner Diaz stated in his concurring opinion on approval of the previous Canadian HEU export license that, "I believe it is important that substantial progress be made towards developing LEU targets for use in the MAPLE reactors before those reactors become fully operational. Therefore, I would have required, as a condition of our approval, that the Executive Branch, in consultation with Argonne National Laboratory, provide the Commission with a schedule for the development of LEU targets that could be used in the MAPLE reactors and with periodic status reports thereafter until the program has been successfully completed."[17] Such vigilance is warranted, but it would be undermined by approving export of a five-year supply of HEU.

Obviously, in the circumstances just described, the intended use of the HEU covered by the pending applications directly implicates the laws, regulations and policies discussed above. Indeed, the export of HEU for use in newly developed HEU targets cannot be squared with the RERTR program objective of developing alternative LEU targets. There are, in short, serious questions

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[17] Ibid.

with respect to the consistency of the proposed exports with the Schumer Amendment, the need for the HEU targets within Canada and the acceptability of the proliferation and terrorism risks associated with the pending applications. These questions deserve in-depth consideration by the Commission before any licensing decision is made.

III. Petitioner's Contentions

As set forth in paragraph (a) below, approval of the proposed exports would be contrary to the requirements of the Schumer Amendment, Section 134 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2160d., and the Commission's implementing regulations, 10 C.F.R. § 110.42(a)(9). Further, in accordance with Section 53 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2073, and 110 C.F.R. §§ 110.42(a)(8) and 110.45(a), the Commission may not issue a license for the export of special nuclear material, such as the HEU at issue in these proceedings, unless it determines that "[t]he proposed export would not be inimical to the common defense and security." For the reasons set forth in paragraph (b) below, Petitioner submits that this requirement cannot be met by the pending license applications.

(a) The Proposed Exports Would Be Inconsistent with the Schumer Amendment and the Commission's Implementing Regulations.

The proposed exports would be inconsistent with the Schumer

Amendment and the Commission's implementing regulations in at least three respects. First, Argonne National Laboratory is not "actively developing an alternative nuclear reactor ... target that can be used" in the Maple reactors, within the meaning of Section 134a.(3) of the Atomic Energy Act, 42 U.S.C. § 2160d.(a)(3), and 10 C.F.R. § 110.42(a)(9)(i)(C). Second, because Argonne National Laboratory has not received the information and cooperation it needs from Canada in order to be able to undertake active development of LEU targets, and because Canada insists that such information and cooperation will be provided only on a "commercial basis" at significant cost, and because this demand for payment in return for cooperating with the RERTR program is unprecedented, and because no funds have been appropriated by the U.S. or any other government for such payment, the Commission cannot find that Canada has provided sufficient "assurances that ... it will use ... [an] alternative ... target in lieu of highly enriched uranium" in the NRU and Maple reactors, within the meaning of Section 134a.(2) of the Atomic Energy Act, 42 U.S.C. § 2160d.(a)(2), and 10 C.F.R. § 110.42(a)(9)(i)(B). Third, because the proposed license is for a five-year supply of HEU, but there is no means of ensuring Canadian cooperation during such an extended period, approval of the license effectively would undermine the intent of the Schumer Amendment, if Canadian cooperation ceased during the following five years. Even if Canada now were cooperating on development

of LEU targets, which NCI contends is not the case, the intent of the Schumer Amendment would not be preserved if the Commission approved the export of any more than a one-year supply of HEU.

(b) The Proposed Exports Would Be Inimical to the Common Defense and Security.

The proposed exports would be inimical to the U.S. common defense and security in several respects. First, to the extent positive Commission licensing action could imply U.S. government approval of either domestic or foreign use of almost 131 additional kilograms of HEU in research or test reactors, this would undercut the RERTR program, exacerbating the risk that operators who have not yet converted their reactors to use of alternative LEU targets and fuel would refuse to do so and that operators who have converted would revert to HEU use, contrary to the United States' non-proliferation interests. These risks are very real, with regard to fuel as well as target material. Among other consequences, shipment of HEU to Canada may hinder efforts (i) to discourage Russia from exporting 625 kilograms of HEU for use at France's ILL-Grenoble and Orphee reactors; (ii) to persuade Germany to drop plans for the FRM-II reactor, the first reactor in the West (with power of at least one megawatt) built to use bomb-grade fuel since the establishment of the RERTR program; (iii) to convince the operators of various reactors, including the JRC's HFR/Petten Reactor, South Africa's Safari I

reactor, France's HFR and Orphee reactors, and Belgium's BR-2 reactors, to convert to LEU use; and (iv) to continue to engage Russia and China under recent agreements expanding the scope of the RERTR program. Second, approval of the pending application would lead to increased international transport of weapons-useable material, aggravating the risk of interception by rogue states, criminals or terrorists. Third, the nuclear proliferation and terrorism risks associated with increasing amounts of HEU in international commerce necessarily outweigh any hypothetical benefits to Applicant or others from the proposed exports. In a world in which major efforts are underway to eliminate HEU surpluses, putting more into circulation makes little sense.[18] In light of such considerations, the grant of the pending license applications cannot be squared with U.S. common defense and security interests.

IV. The Need for a Full Oral Hearing

A full oral hearing to examine Petitioner's contentions is essential both to serve the public interest and to assist the Commission in making its statutory determinations. Such a hearing would fulfill the Commission's mandate to explore fully

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[18] The United States has already committed, at an estimated cost of several billion dollars, to purchase 500 tons of Russian HEU, all of which is to be blended down to LEU to remove the bomb-grade material from international commerce and eliminate any risk of diversion to weapons. Approving the proposed export would be at cross purposes with this major U.S. post-Cold War initiative.

the facts and issues raised by export license applications, where appropriate through full and open public hearings in which (a) all pertinent information and data are made available for public inspection and analysis and (b) the public is afforded a reasonable opportunity to present oral and written testimony on these questions to the Commission. See 42 U.S.C. § 2155a. and 10 C.F.R. §§ 110.40(c), 110.80-110.91, 110.100.[19]

There is substantial controversy surrounding any continued use of bomb-grade uranium. Indeed, the questionable wisdom of permitting commerce in HEU has been sharply illustrated by disclosures that Iraq had begun to divert safeguarded HEU for the purpose of converting it to weapons-use prior to the Gulf War and by the actions of the United States, its allies and the International Atomic Energy Agency to remove the HEU in the possession of Iraq after the conclusion of the War. Similarly, after the fall of Romania's Communist government, the U.S. sought and won in 1991 permission to convert all unirradiated HEU fuel elements owned by the Romanian government to LEU. Only a public hearing in which issues related to the continued appropriateness of exporting HEU are fully aired and subjected to public scrutiny will serve to resolve legitimate public questions concerning both

[19] The Commission's regulations, it should be noted, include specific recognition that public participation and input are encouraged. 10 C.F.R. § 110.81(a).

the need for granting these license applications and the risks associated with such action. Certainly, the unchallenged assertions of Applicant and/or the Executive Branch are not enough to satisfy the public interest in the case.

Petitioner includes among its directors, staff and supporters individuals with broad experience and expertise in technical and policy matters directly relevant to the risks and implications of the proposed exports. Additionally, it has expert consultants fully familiar with all aspects of the RERTR program. These individuals would bring to the instant proceeding perspectives which are presently lacking and are pivotal to an understanding and resolution of the factual and legal issues raised by the pending license applications.

V. Relief Requested

For the reasons set forth above, Petitioner respectfully requests that the Commission:

1. Grant this Petition for Leave to Intervene;

2. Order that an oral hearing be held in connection with the pending license applications; and

3. Act to ensure that all pertinent data and information regarding the issues addressed by Petitioner be made available for public inspection at the earliest possible date.

Respectfully submitted,

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Dated: December 30, 1998
Washington, D.C.

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing Petition of the Nuclear Control Institute for Leave to Intervene to be served by having copies thereof mailed, first class, postage prepaid, on the 30th day of December, to the following:

Joan McLaughlin
Traffic Coordinator
Transnuclear, Inc.
Four Skyline Drive
Hawthorne, New York 10532-2176

Executive Secretary
U.S. Department of State
Washington, D.C. 20520

and by having copies thereof hand-delivered on the 31st day of December to the following:

Docketing and Service Branch
Office of the Secretary
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852
(original and two copies)

General Counsel
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852

Paul L. Leventhal

Dated: December 30, 1998
Washington, D.C.