

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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Edward McGaffigan, Jr.  
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In the Matter of )  
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TRANSNUCLEAR, INC. )  
 )  
(Export of 93.3% Enriched Uranium) )  
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\_\_\_\_\_)

Docket No. 11004440  
License No. XSNM 02611

CLI-00-16

MEMORANDUM AND ORDER

**I. INTRODUCTION**

The Nuclear Control Institute (NCI) has filed an amendment to its Petition for Leave to Intervene and Request for Hearing on Transnuclear, Inc.'s (Transnuclear) revised license application seeking to export highly enriched uranium (HEU) to The Netherlands. For the reasons discussed in this Memorandum and Order, we deny NCI's intervention and hearing request and order issuance of the license.

**II. BACKGROUND**

On May 7, 1991, Transnuclear filed a license application with the Commission seeking authorization to export 38.285 kilograms of HEU as fuel for the European Commission's High Flux Reactor in Petten, The Netherlands (the Petten Reactor). On July 3, 1991, the Nuclear Control Institute (NCI or petitioners) filed a Petition for Leave to Intervene and Request for Hearing. Under the Commission's regulations found at 10 C.F.R. 110.84(d), the Commission does not act on hearing requests or intervention petitions until it has received the Executive Branch's views on the merits of the application. The Commission received these views on June 2, 2000. These views were supplemented by a separate letter dated July 31, 2000, containing an updated analysis of Transnuclear's revised license application prepared by Argonne National Laboratory (ANL).

Following submission of the license application and NCI's intervention petition, Congress enacted new requirements, commonly referred to as the Schumer Amendment, governing the export of HEU.<sup>(1)</sup> Following passage of the Schumer Amendment, the European Commission's Joint Research Center (JRC), which operates the Petten reactor, failed to provide the required assurances that it would convert the Petten reactor to use low enriched uranium (LEU) fuel. In light of the requirements imposed upon the export of HEU by the Schumer Amendment, the Executive Branch could not then recommend that the Commission approve Transnuclear's license application. The Executive Branch asked that the Commission keep the application pending while consultations with the European Commission and the JRC remained ongoing.

In a January 2000 exchange of formal diplomatic notes, the European Commission and the United States Government agreed that the Petten Reactor will be converted from HEU to LEU fuel as soon as a license has been issued by the Dutch regulatory authorities and an adequate supply of LEU fuel has been procured for the reactor. This agreement is contingent upon the U.S. Government "making its best efforts" to obtain a supply of HEU fuel for the Petten Reactor to permit continued operation of the facility until the conversion to LEU fuel has been completed. The diplomatic notes contain additional assurances *inter alia* that the Petten reactor will seek a license and LEU fuel in a timely manner; that the conversion process will involve active collaboration between experts at the JRC and the Department of Energy's National Laboratories; that the European Commission will keep the United States Government informed of the progress being made towards licensing and conversion of the Petten reactor; that barring unforeseen licensing difficulties beyond the control of the European Commission, conversion of the Petten reactor will be completed by May 12, 2006; and that even if the conversion is not then complete, the Petten reactor will not operate using HEU fuel after May 12, 2006.

In light of these understandings, Transnuclear submitted a revised license application to the Commission dated February 11, 2000. This revised application seeks authorization to export 150.348 kilograms of HEU as fuel for the Petten reactor to be

delivered over a four-year period in annual tranches of 37.587 kilograms of HEU. The HEU in the form of metal will be fabricated into fuel elements by CERCA in France for the Petten reactor.

Transnuclear's revised application was submitted to the Executive Branch for its views on March 1, 2000. The Department of State provided the Commission with Executive Branch views on the merits of Transnuclear's application by letter dated June 2, 2000. These views were supplemented by a separate letter, dated July 31, 2000, enclosing an updated analysis performed by Argonne National Laboratory (ANL) detailing the Petten reactor's current HEU fuel status and additional HEU fuel needs in light of the proposed schedule to convert to LEU fuel use. The Executive Branch advised the Commission that the proposed export would not be inimical to the common defense and security of the United States and that the other requirements of the AEA had been met. With respect to the requirements of section 134 of the AEA (the Schumer Amendment), the Executive Branch further advised that the European Commission has agreed that it is feasible to convert the Petten reactor from HEU fuel to LEU fuel; the European Commission has committed to pursue conversion of the Petten reactor in a timely manner; and that ANL has an active DOE-funded program underway which has developed a LEU fuel suitable for use in the Petten reactor. In light of these findings, the Executive Branch has recommended approval of the license application.

On April 6, 2000, NCI amended its original 1991 Petition for Leave to Intervene and Request for Hearing. On June 27, 2000, NCI also provided the Commission with its response to the June 2, 2000, views of the Executive Branch. In light of the European Commission's commitment to convert the Petten reactor to LEU fuel use and the additional information provided by the JRC and the Executive Branch, NCI now agrees that the requirements of the Schumer Amendment have been met. NCI is therefore withdrawing the contentions set forth in its original July 3, 1991, petition and no longer opposes the granting of Transnuclear's license application. Amended Petition at 6, 8. As discussed below, however, NCI continues to believe that the Commission should impose conditions on the granting of this export license as a means of insuring Transnuclear's compliance with applicable U.S. law and policy governing the placing of HEU into international commerce. *Id.* at 6.

### **III. PETITIONER'S STANDING**

Before turning to the merits of NCI's petition, the Commission first addresses the issue of NCI's standing. The Commission finds that NCI lacks standing to intervene in this proceeding as a matter of right. NCI is a nonprofit, educational corporation based in the District of Columbia actively engaged in disseminating information to the public concerning the proliferation, safety, and environmental risks associated with the use of weapons-useable nuclear materials, equipment, and technology. Amended Petition at 3 n.5 (referencing that section of NCI's original 1991 petition setting forth its interests). The Commission has long held, and NCI has previously conceded, that NCI's institutional interest in providing information to the public and the generalized interest of its membership in minimizing the danger from proliferation are insufficient to confer standing under section 189a. of the Atomic Energy Act. *See, e.g. Transnuclear, Inc. (Export of 93.3% Enriched Uranium), CLI-99-15, 49 NRC 366, 367-368 (1999); Transnuclear, Inc. (Export of 93.3% Enriched Uranium), CLI-98-10, 47 NRC 333, 336 (1998); Transnuclear, Inc. (Export of 93.15% Enriched Uranium), CLI-94-1, 39 NRC 1, 4-6 (1994).* The Commission in CLI-94-1 set forth the applicable legal principles and case law supporting this conclusion. There is no reason to repeat that discussion here, particularly since NCI again appears to recognize that it does not have standing to intervene in this proceeding as a matter of right. *See* Amended Petition at 8 n.10 (laying the basis for a discretionary hearing only).

The Commission has further considered whether to order a discretionary hearing in this proceeding. The Commission's regulations provide for a discretionary hearing if the Commission finds that a hearing would assist it in making the statutory determinations required by the AEA and be in the public interest. 10 C.F.R. § 110.84(a). NCI asserts that a full and open hearing would assist the Commission and be in the public interest. Amended Petition at 7-8. However, as discussed below, in its June 27, 2000, response to the Executive Branch view's, NCI conceded that the statutory requirements set forth in the Schumer Amendment governing HEU exports have been met. Moreover, there is nothing in NCI's petition indicating that it possesses special knowledge or that it will present significant information not already available to and considered by the Commission. A discretionary hearing would therefore impose unnecessary burdens on the participants without assisting the Commission in making its statutory findings under the AEA. For these reasons, we find that a discretionary hearing is not warranted in this proceeding.

### **IV. STATUTORY REQUIREMENTS FOR AUTHORIZATION OF EXPORT OF HEU FUEL**

NCI's April 6, 2000 amended petition, which it submitted prior to receiving a copy of the Agreement entered into between the United States and the European Union discussed above, set forth three issues that NCI believed the Commission needed to resolve before issuing an export license to Transnuclear. First, NCI's amended petition asserts that Transnuclear had not provided adequate documentation allowing the Commission to determine that the requirements of the Schumer Amendment have been met. Second, NCI's amended petition asserts that the Commission must ensure that the conversion of the Petten reactor to LEU fuel is carried out as expeditiously as possible in order to minimize the amount of HEU placed into international commerce. NCI contends that Transnuclear has not established through documentary or other submissions to the Commission that conversion of the Petten reactor will take four years. NCI thus argues that approval of a four-year license risks providing fresh HEU that the Petten reactor may not actually need. Third, NCI argues in its amended petition that the Commission should condition approval of the license on obtaining a commitment prohibiting the retransfer to alternate end users of any U.S.-origin HEU intended for the Petten reactor but which ultimately may prove in excess of the reactor's actual needs.

New information made available to both the Commission and NCI in the European Commission's May 3, 2000 submission to the Commission and the Executive Branch's June 2, 2000 and July 31, 2000 letters to the Commission addresses these concerns. In light of this new information, NCI now acknowledges that the requirements of the Schumer Amendment have been met and does not oppose the export of HEU for use as fuel in the European Commission's Petten reactor. *See* Response

of Petitioner, Nuclear Control Institute To The Executive Branch Views On The Petten Application (Response of Petitioner), at 1. The Commission agrees that the requirements set forth in the Schumer Amendment have been met. However, the two remaining issues raised by NCI warrant further discussion.

## **A. Progress of the Conversion Process**

NCI contends that Transnuclear has not provided adequate documentation to the Commission showing that conversion of the Petten reactor will actually take four years. NCI believes that the Commission is therefore unable to ensure that conversion of the Petten reactor will be carried out in a timely and expeditious manner. NCI believes that approval of the requested four-year license provides a disincentive for expeditious conversion of the Petten reactor to LEU fuel use. Amended petition at 9. NCI therefore requests that conditions be placed on the granting of this license requiring annual status reports by Transnuclear, a response to the reports by the Executive Branch, a public meeting if necessary, and an opportunity for the Commission to modify, suspend or revoke the license should the Commission determine that conversion of the Petten reactor is not proceeding in an expeditious manner. *Id.* at 9-10; *see also* Response of Petitioner at 3.

In the January 2000 exchange of formal diplomatic notes, the European Commission provided the United States Government with firm assurances that the Petten reactor will be converted from HEU fuel to LEU fuel as soon as the conversion has been licensed by regulatory authorities in The Netherlands and a supply of LEU fuel procured for the Petten reactor.<sup>(2)</sup> The Commission believes, based on the information currently available to it, that the revised JRC conversion schedule as set forth in the Executive Branch's July 31, 2000, supplemental letter and the attached ANL analysis is reasonable. This revised schedule envisages completion of Phase 1 analyses of certain technical design parameters (e.g. the number of fuel plates per fuel assembly and the U-235 content of the assembly) by September 2000. The JRC then plans to procure two LEU prototype fuel assemblies to verify that there are no fuel assembly fabrication problems and to perform reactivity measurements. Procurement and irradiation of these prototypes is expected to be completed by September 2002. In Phase 2, the JRC and the Department of Energy's Reduced Enrichment for Research and Test Reactors (RERTR) program will conduct safety analyses needed to obtain a license from Dutch regulatory authorities for conversion of the Petten reactor to LEU fuel. These analyses are expected to begin in October 2000 and will take 1.5 - 2 years to complete. In Phase 3, the JRC plans to update the Petten reactor's licensing documentation for review by Dutch regulatory authorities. Review and approval of this documentation and completion of the licensing process is expected to be completed before the end of 2003. Once a license has been obtained, the JRC plans to procure a one-year supply of LEU fuel assemblies during 2004. LEU conversion of the Petten reactor will begin around May 2005 to ensure conversion of the entire core prior to May 12, 2006.<sup>(3)</sup>

The Commission notes that uncertainties remain regarding the timing of the conversion schedule, particularly with regard to obtaining the necessary regulatory approvals from the appropriate authorities in The Netherlands. The Commission also notes that in the January 2000 exchange of formal diplomatic notes the European Commission undertook to keep the United States Government informed of the progress made towards licensing and conversion of the Petten reactor and that ANL experts will also maintain a close cooperative relationship with the operators of the Petten reactor as the conversion process proceeds. The Commission intends to closely monitor the progress made in meeting the conversion schedule and will be prepared to consider any adjustments to the license required by changed circumstances.

## **The Risk of Re-Transfer of Excess HEU**

NCI contends that approval of a four year license risks facilitating the re-transfer of HEU from the Petten reactor to alternate end-users within EURATOM, either by freeing up the Petten reactor's existing supply of previously exported HEU for retransfer or by providing fresh HEU in excess of the Petten reactor's actual requirements that would then be available for retransfer. Amended Petition at 12-13. In light of these concerns, NCI requests that the Commission impose license conditions designed to prevent the JRC from retransferring HEU in excess of the Petten reactor's actual needs to other facilities within EURATOM. Specifically, NCI requests that conditions be placed on the granting of this license requiring a commitment that the JRC will exhaust its existing supply of HEU prior to irradiating any of the HEU requested in the pending license application and that any HEU exported under this license in excess of the Petten reactor's actual needs will either be blended down to LEU or returned to the United States. Response of Petitioner at 4-5.

NCI has correctly pointed out that under the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between EURATOM and the United States of America, the European Commission is not required to obtain the consent of the United States Government for the retransfer of U.S.-supplied HEU among the member nations of EURATOM. However, the Commission concludes that, as a practical matter, the risk of such a retransfer in the present case is slight.

Argonne National Laboratory's analysis of Transnuclear's revised export license application provides detailed information on the Petten reactor's current inventory of HEU. This analysis confirms that as of December 31, 1999, the Petten reactor's useable unirradiated U-235 inventory was only sufficient to allow normal reactor operation from January 2000 until May 2001. The pending export license requests sufficient HEU to extend normal reactor operation for about four years, from May 2001 until May 2005, when conversion to LEU fuel use is scheduled to begin. It thus appears that the Petten reactor will require all of its existing supply of HEU to continue normal operations until the first shipment of fresh HEU shipped under this license is received in approximately May 2001. Based on ANL's analysis, the Commission is convinced that approval of the pending export license application will not result in freeing up the Petten reactor's existing supply of previously exported HEU for retransfer to alternate end-users within EURATOM.

NCI is also concerned that approving a four-year license risks providing HEU in excess of the Petten reactor's actual

requirements that would then be available for retransfer to alternate end-users within EURATOM. This concern is integrally related to NCI's argument that conversion of the Petten reactor should not take four years. Based on the information currently available to it, the Commission believes that the revised JRC conversion schedule is reasonable. According to the analysis conducted by ANL, the 150.348 kilograms of HEU requested under the revised export license application meets the Petten reactor's current annual requirements over the course of the proposed export license and is not likely to result in the accumulation of significant amounts of excess HEU that would then be available for retransfer to alternate end-users within EURATOM.

The Commission further notes that this export license would authorize the export of HEU in annual shipments not to exceed 37.587 kilograms per year over a four-year period. This gives the Commission the ability to monitor the conversion process and adjust the license as necessary to avoid the potential accumulation of HEU fuel significantly in excess of the Petten reactor's actual needs. The January 2000 exchange of formal diplomatic notes between the United States Government and the European Commission provides that the European Commission will keep the United States Government informed of the progress made towards licensing and conversion of the Petten reactor. The Commission therefore requests that the Executive Branch provide the Commission with annual reports detailing the status of the Petten reactor's conversion effort. Should the amount of HEU authorized for export under this license exceed the Petten reactor's actual needs, the Commission can then determine what action, if any, it should take.

This export license application requests authorization to export 150.348 kilograms of HEU in annual shipments of 37.587 kilograms per year over a four-year period. There is a request pending before the United States Government pursuant to section 131 of the AEA to retransfer 16.195 kilograms of U.S.-origin HEU from Switzerland to The Netherlands for use in the Petten reactor during the effective period of this export license. Based on the information currently available to it, the Commission believes that the Petten reactor will require the full 150.348 kilograms of HEU fuel requested in Transnuclear's revised license application to continue normal operations over the four-year life of the proposed export license. However, presuming that DOE will approve this retransfer, the Commission is only authorizing export of 134.153 kilograms of HEU under this license. This reduction from the requested amount takes into account the 16.195 kilograms of HEU the Petten reactor is likely to receive from Switzerland and ensures that the total amount of HEU that the Petten reactor receives under this license and as a result of an approved retransfer will not exceed the 150.348 kilograms of HEU requested by Transnuclear in its revised license application. Furthermore, the total quantity of HEU fuel exported for the Petten reactor under this license shall not exceed 37.875 kilograms of HEU in any given calendar year. In the event that this retransfer is not approved by DOE, the licensee can request a license amendment for additional HEU fuel.

### **C. Other Export Licensing Criteria**

As part of its licensing decision the Commission must determine whether the other applicable licensing criteria have been satisfied. There is no doubt that the nonproliferation criteria set forth in sections 127 and 128 of the AEA have been met. The Netherlands is a party to the Treaty on the Nonproliferation of Nuclear Weapons and the Convention on the Physical Protection of Nuclear Materials. The Netherlands government places all of its peaceful nuclear activities under International Atomic Energy Agency (IAEA) safeguards and adheres to the IAEA Recommendations on the Physical Protection of Nuclear Materials (INFCIRC/225/rev. 4). Additionally, The Netherlands has also adopted the Nuclear Supplier Group Guidelines and is a member of the NPT Exporters Committee ("Zanger Committee"). Finally, EURATOM by letter dated March 31, 2000, has confirmed that this proposed export would be subject to all the terms and conditions of the existing Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between EURATOM and the United States of America.

The Department of State, in its June 2, 2000, letter transmitting the views of the Executive Branch, determined "that the proposed export would not be inimical to the common defense and security of the United States." In making this determination the Department of State, as required by section 133 of the AEA, consulted with the Department of Defense to confirm that physical protection measures will be adequate to deter theft, sabotage, and other acts of international terrorism that would result in the diversion of the material during the export process.

Judgments of the Executive Branch regarding the common defense and security of the United States involve matters of its foreign policy and national security expertise, and the NRC may properly rely on those conclusions. *See Natural Resources Defense Council v. NRC*, 647 F.2d 1345, 1364 (D.C. Cir. 1981). Although the Commission is mindful of NCI's concerns, we hold that the Executive Branch conclusions and The Netherlands' longstanding commitment to nonproliferation support a finding that this proposed export will not be inimical to the common defense and security of the United States.

### **V. ISSUANCE OF THE LICENSE**

The Commission has determined that the export licensing criteria set forth in the Atomic Energy Act are satisfied and directs the Office of International Programs to issue license XSNM-02611 to Transnuclear, Inc. for the export of 134.153 kilograms of HEU. The Commission specifically finds that the export licensing criteria set forth in AEA sections 127, 128, and 134 have been met. Moreover, the Commission determines pursuant to AEA sections 53 and 57 that issuance of this license would not be inimical to the common defense and security of the United States or constitute an unreasonable risk to the health and safety of the public.

To facilitate the Commission's ongoing monitoring of the conversion of the Petten reactor, the Commission requests that the Executive Branch prepare annual reports on the status of the Petten reactor's conversion effort. The first annual report should be provided to the Commission by the Executive Branch with any relevant comments one year after the issuance of this order. Further annual reports will be due no later than 365 days after submission of the first annual report. The Commission intends

to place these reports in its Public Document Room. Therefore, any proprietary information should be handled as an annex to the reports so that the proprietary information can be easily segregated from the rest of the report.

It is so ORDERED.

For the Commission<sup>(4)</sup>

/RA/

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Annette Vietti-Cook  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 24<sup>th</sup> day of August 2000.

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1. The Schumer Amendment resulted in a new section 134 being added to the Atomic Energy Act. See 42 U.S.C. § 2160d. Section 134 of the AEA permits the issuance of a license for export of uranium enriched to 20% or more in the isotope 235 to be used as a fuel or target in a nuclear research or test reactor only if, in addition to the other requirements of the AEA, the NRC first determines that:

(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). The Commission has incorporated these requirements into its regulations at 10 C.F.R. § 110.42(a)(9(i)).

2. The Commission has previously found that these types of diplomatic notes can constitute assurances sufficient to satisfy the applicable requirements of the Atomic Energy Act. See CLI-99-20, 49 NRC 469, 473-74 (1999), *citing* CLI-98-10, 47 NRC 333, 338 n. 5 (1998).

3. The Commission also notes that the European Commission has provided the United States Government with a firm commitment that the Petten reactor will not operate on HEU fuel after May 12, 2006, even if the conversion process is not completed by this date. The Commission believes that this commitment provides a powerful incentive for the European Commission to ensure a timely conversion of the Petten reactor to LEU fuel use.

4. Commissioner Diaz was not available for affirmation of this Memorandum and Order. Had he been present, he would have affirmed the Memorandum and Order.