ANALYSIS OF RETRANSFER OF SPECIAL NUCLEAR MATERIAL

Prepared by the Office of Nuclear Affairs
International Nuclear and Technical Programs
United States Department of Energy
July 23, 1980

Proposed Transferor:

Nordostschweizerische Kraftwerke, AG (NOK)
Beznau 1 Nuclear Power Plant, Switzerland

Proposed Transferee:

EURATOM Supply Agency for British Nuclear Fuels, Limited (BNFL)

Origin of Enriched Uranium:

United States Department of Energy Contract Number E(49-14)
UES/SD/1

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I. INTRODUCTION

The Department of Energy has received a request from Nordostschweizerische Kraftwerke AG, (NOK), that the U.S. approve a retransfer of U.S.-origin spent fuel assemblies from the Beznau 1 Nuclear Power Plant in Switzerland to the United Kingdom for the purpose of reprocessing and storage of the separated uranium and plutonium. (See Annex A).

This proposed retransfer is a "subsequent arrangement" as defined in Section 131.a.(2) of the Atomic Energy Act of 1954, as amended. As required by Section 131.a.(1), the proposed retransfer will be analyzed herein to determine whether such an arrangement will be "inimical to the common defense and security". It will also be analyzed with regard to other relevant provisions of the Atomic Energy Act of 1954, as amended, and established Executive Branch policy with regard to retransfers for the purpose of reprocessing.

II. BACKGROUND

A. Synopsis of the Proposed Retransfer

The following materials are included in the proposed retransfer of spent nuclear fuel from the Beznau 1 Nuclear Power Plant:

Fuel Type and Quantity	70 PWR Assemblies
Total U	21,830 Kg
U-235	180 Kg
U-235 Isotopic Content	.82 %
Produced Pu	204 Kg
Initial Shipping Date	Fall 1980

NOK proposes that the 70 irradiated fuel assemblies, now at the reactor site in Switzerland, be transferred to the British Nuclear Fuels, Ltd. (BNFL) for chemical reprocessing and recovery of uranium and plutonium. The recovered uranium and plutonium will be retained by BNFL at its Windscale plant. In accordance with arrangements with Switzerland, any future transfer or use of the recovered uranium and plutonium will be subject to the prior consent of the U.S. Government.

B. Policy of the Executive Branch

It is the policy of the Executive Branch to review requests for the retransfer of U.S.-origin nuclear fuel for the purpose of reprocessing on a case-by-case basis:

1. Requests will be considered if they meet the criterion of physical need and if the country is cooperating in expanding its storage capacity.

2. Requests not meeting the physical need criterion will be considered (a) if the requests occur pursuant to reprocessing contracts entered into prior to April 1977 and (b) if approval would advance specific, major non-proliferation objectives.

This policy was established during the period of the International Nuclear Fuel Cycle Evaluation (INFCE), and will continue in effect until the U.S. has fully assessed the results of INFCE and determined the possible need for a revised policy.

C. Statutory Requirements

In addition to meeting these criteria of Executive Branch policy, the proposed retransfers will have to satisfy criteria in Section 127 and 131 of the Atomic Energy Act of 1954, as amended.

III. EVALUATION OF THE PROPOSED RETRANSFER

A. Conformity with Executive Branch Policy

1. Physical Need

The current and projected storage situation at the Beznau 1 Nuclear Power Plant is shown in Table 1 following this page. As indicated, NOK is expanding the storage capacity at Beznau 1 and, for reasons indicated below, we believe that this request meets the criterion of physical need adopted by the Executive Branch in reviewing requests for the retransfer of U.S.-origin nuclear material.

The present capacity of the spent fuel storage facility at Beznau 1 is 323 spaces. This storage capacity is divided into two pools. Pool A retains at this time its original 83 spaces but Pool B contains 240 spaces, reflecting the re-racking program which has been completed there. The fabrication of the compact racks for Pool A has started and these racks are scheduled to be installed by early 1981. At that time the capacity in Pool A will be increased from 83 to 320 spaces and the total capacity of Pools A and B will be increased to 560 spaces. However, in order to install the new racks in Pool A, NOK believes it to be important from a safety standpoint to remove the 83 spent fuel assemblies now in Pool A from Pool A to Pool B, even though this is not consistent with the utility's policy of maintaining a full core reserve in the event of an emergency. Although the utility would probably prefer to ship 97

Table 1

Beznau 1 Power Plant
Current and Projected Storage Situation

	Current		Projected for Completion by Early 198'
	Pool A	Pool B	Pool A and B
Storage Capacity (assemblies)	83	240	560
Spent Fuel in Pool (assemblies)	-0-	216	216
Space Available to receive fuel	-0-	24	344
Full Core Reserve (FCR)	-0-	121	121
Spaces Available Less FRC	-0-	(-97)	223
Next Scheduled Discharge Date			June 1981
Assemblies to be discharged in June 1981			30

Note: The "Current" situation reflects the fact that Pool B has been re-racked and Pool A must be emptied to complete the re-racking program. The "Projected" situation reflects the situation anticipated to exist when re-racking of Pool A has been completed.

assemblies to the U.K. in order to maintain the total full core reserve in Pool B while the work in Pool A progresses, we are informed that an earlier commitment was made to transfer only 70 assemblies and this cannot be changed due to a shortage of shipping casks. Therefore, a deficiency of 27 spaces for a full core reserve will exist from the time Pool A is emptied until the re-racking program has been completed in early 1981. However, this situation will last for only about six months and is clearly preferable to retaining a deficiency of 97 spaces as would be the case were this request for reprocessing not approved.

2.a. Prior Contractual Commitment

The reprocessing contract for this retransfer was concluded in 1968, before the current U.S. policy towards reprocessing had been announced. At the time this contract was signed, the U.S. adhered to a policy which assumed that reprocessing, under safeguarded conditions, was the appropriate way to dispose of spent fuel. Although the utility was aware that U.S. approval would be required to make such shipments, it would have been difficult for NCK to foresee that U.S. policy would change in the intervening period.

A copy of the relevant contract concerning NCK retransfers is not available, since both the reprocesser and the utility have consistently maintained that the contract is proprietary in nature.

Thus, this request is based on a pre 1977 reprocessing contract as well as the criterion of " physical need."

2.b. Advancement of Non-Proliferation Objectives

As was done in the recent Muhleberg reprocessing case (RTD/EU(SD)-31), the Department of Energy has consultated with both the Department of State and ACDA as to whether U.S. non-proliferation objectives would be enhanced by approval of the subject case. After balancing the pros and cons, we have concluded that U.S. non-proliferation interests would be advanced if we approved the subject case and harmed if we denied the application or delayed it for a protracted period.

Switzerland is, of course, an important member of the IAEA, an adherent to the NPT an advocate of IAEA safeguards and also a nuclear supplier nation. Switzerland also has played an important role in developing the so-called Zangger list of items that serves to trigger IAEA safeguards, and adheres to the London Supplier Guidelines. Switzerland also was particularly active in INFCE (notably Working Group 3 on supply assurances) and we anticipate that Switzerland will continue to play an important role in shaping new non-proliferation measures which may emerge now that INFCE is over. We also have

an interest in renegotiating our bilateral agreement or cooperation with Switzerland on the civil uses of atomic energy to include the new provisions mandated by the Nuclear Non-Proliferation Act of 1978.

Switzerland has an important on-going nuclear power program and it evidently believes that the orderly execution of this effort depends, in part, upon the ability of the Swiss utilities to fulfill their obligations under the reprocessing contracts that they executed prior to 1977.

Against this background we have a strong interest in preserving close cooperation with the Government of Switzerland and we believe this goal will be enhanced if we execute the retransfer and consent rights that we already have with Switzerland in a responsible, timely and predictable manner.

On the other hand, it must be acknowledged that the U.S. and Switzerland have not always agreed on specific nuclear export issues. As a case in point, the U.S. believes that sensitive exports like heavy water plants preferably only should take place if "full-scope" safeguards apply to the cooperating country involved whereas Switzerland, like some other countries, has not yet adhered to such a policy. We are hopeful that in time our two countries will draw closer together on this issue.

Approval of the subject retransfer will not, in itself, assure any major Swiss shift in policy on specific nuclear export issues. However, we do believe that a denial or delay in approving the request would make it harder to achieve closer cooperation with Switzerland on these and related issues.

Finally, the United Kingdom, which is involved in this case, has been cooperating with the U.S. on non-proliferation matters and will figure importantly on the evolution of whatever new non-proliferation directions may now follow INFCE.

Accordingly, based on the various considerations, we believe U.S. policy would be fostered by approval of the subject retransfers.

B. Conformity with Statutory Requirements

As required by Section 131 of the Atomic Energy Act, and in consultation with the Department of State, the Arms Control and Disarmament Agency, the Nuclear Regulatory Commission, and the Departments of Commerce and Defense, the Department of Energy has considered whether the proposed retransfer will result in a significant increase of the risk of proliferation beyond that which existed at the time that approval was requested, and has considered whether there would be timely warning "of any diversion well in advance of the time at which the non-nuclear-weapon state could transform the diverted material into a nuclear explosive device." Together with the Department of State, we have concluded that, taking into account the non-proliferation credentials of the countries involved, where the reprocessing will occur, and the fact that the derived

plutonium may not be retransferred to Switzerland or any other state without explicit U.S. consent, this approval will not result in a significant increase in the risk of proliferation. Moreover, in considering the rationale noted above, we believe that approval will serve to advance major, U.S. non-proliferation objectives.

More specifically, and with regard to the question of proliferation risk, the plutonium separated in the reprocessing facility will remain in France until it is disposed of in accordance with terms that are acceptable to the United States. In cases such as this the United States has been controlling retransfers within the European Community of separated special nuclear material by a commitment from the non-EURATOM shipping country that:

(1) The spent fuel will be retained by the reprocessor until it may be reprocessed and that, thereafter, the recovered special nuclear material will be retained by the reprocessor subject to the direction of the shipper.

(2) Any direction by the shipper to the reprocessor for the transfer or use of the recovered special nuclear material will be subject to the prior approval of the United States.

Switzerland, a non-Euratom shipping country, agrees to these conditions based upon the processor's contractual pledge to hold the spent fuel, reprocess it, and then use or transfer the recovered material only in accordance with the shipper's instructions. In the subject case, Switzerland has assured the United States that it agrees to the above conditions.

Also, under the terms of the U.S.-Euratom Agreement for Cooperation, the prior approval of the United States would be required for any transfer of the produced material to a country outside EURATOM. Such a transfer would constitute a new subsequent arrangement pursuant to Section 131 of the Atomic Energy Act and as such would have to be considered on its own merits by the Executive Branch and the Congress when plutonium is to be transferred in quantities greater than 500 grams. Moreover, such approval will only be granted under terms consistent with the provisions of the Act, including Section 131, taking into account such important factors as the "timely warning" criterion specified in that section, and incorporating provisions of the Nuclear Non-Proliferation Act of 1978 (NNPA). The United States has emphasized this point to the other governments concerned and has underscored that it shall remain the policy of the United States to consider retransfer proposals for reprocessing on a case-by-case basis until the U.S. has fully assessed the results of the International Nuclear Fuel Cycle (INFCE) and has established a post-INFCE policy. Also, as we have in the past, we intend to emphasize that our approval of this retransfer in no way constitutes a policy endorsement of the reprocessing facility involved.

We also believe our current interim approach has avoided any implication that we are giving any generic endorsement to conventional PUREX reprocessing which could serve to influence non-nuclear-weapon states (NNWS) to acquire facilities of a comparable nature. This approach also has enabled us to relate our approvals of such retransfers to ongoing developments including the evolution of non-proliferation policies in the United States and elsewhere, as well as an assessment of the results of INFCE. Such an assessment is now underway.

Furthermore, a number of other factors were considered in this case that are relevant to the judgment that the proposed retransfers will not result in a significant increase in the risk of proliferation. In particular, at the multinational and international level, the United Kingdom has evidenced a cooperative attitude in fostering non-proliferation objectives. For example, the United Kingdom has supported International Atomic Energy Agency (IAEA) safeguards, and has adhered to the Nuclear Supplier's Guidelines. Moreover, the United Kingdom is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Furthermore, the United Kingdom has also displayed a cooperative attitude in consulting with the United States on a range of non-proliferation issues and there are a number of emerging similarities between our two governments as to how such issues should be resolved. The likelihood that the United Kingdom will shift away from such attitudes is judged to be highly remote.

In summary, it is our view that the terms of this proposed subsequent arrangement satisfy the requirements set forth in Sections 127 and 131 of the Atomic Energy Act of 1954, as amended. Further detailed discussion of these requirements may be found in Annexes B through D of this analysis.

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the various factors set forth in this analysis, it is the judgment of the Department of Energy with the concurrence of the Department of State and following consultations with the Arms Control and Disarmament Agency, the Nuclear Regulatory Commission, and Departments of Defense and Commerce that the proposed "subsequent arrangement" will not be inimical to the common defense and security and will indeed enhance such defense and security through the continuing encouragement of cooperation in the pursuit of common non-proliferation and energy objectives. It should therefore be approved on a timely basis.*

*Appropriate interagency comments will be inserted in this section.

APPROVAL FOR RETRANSFER OF SPECIAL NUCLEAR MATERIAL
OF UNITED STATES ORIGIN

he approval of the United States Department of Energy is hereby requested
o the transfer

rom NORDOSTSCHWEIZERISCHE KRAFTWERKE AG, Nuclear Power Plant Beznau I,
(Transferor) Switzerland

o BNFL, Windscale Reprocessing Plant, U.K. via EURATOM SUPPLY AGENCY
(Transferee)

f United States supplied special nuclear material in the quantity and
eeting the specifications described below (hereinafter called "specified
aterial") which the transferor obtained pursuant to its Agreement for
ooperation for Civil Uses with the United States Government. Material
as originally obtained by transferor from USAEC,
nder Contract or Order Number AT (49-14) UFS/SD/1.

SPECIFIED MATERIAL
(Fill in where applicable)

Material Type	Identification Marking, No., etc.	Total U (In Grams)	U-235, ~~U-233 or Pu~~ (In Grams)	Pu (in Grams) ~~Isotopic Percent U-235, U-233, or Pu~~
70 PWR		21'829'949	180'064	204'246

he specified material, which is now located at Beznau I, will
on approval hereby by the United States Department of Energy be transferred
n or about August 1980 for
e at Windscale and will be accepted for
he following specified purpose:

Reprocessing of the 70 irradiated fuel assemblies

he transferor, with the concurrence of the transferee, will notify within
0 days after the aforesaid date the United States Department of Energy
f the actual date and quantity of material transferred. It is agreed
y the transferor and transferee that as of that date the specified
aterial will cease to be subject to the Agreement for Cooperation and
ontract indicated above and will be subject to the transferee's Agreement
or Cooperation for Civil Uses with the United States Government.

Nordostschweizerische Kraftwerke AG
5401 Baden

BUNDESAMT FÜR ENERGIEWIRTSCHAFT

(Transferor) (Date) 18. Dec. 79

EURATOM SUPPLY AGENCY
J.B. HENNICKEN, Director general

(Transferee) (Date)

ove requested transfer under Article of transferee's Agreement
or Cooperation for Civil Uses with the United States Government approved,
rovided physical transfer is consummated by

(For the United States Department of Energy)

Section 127 (4) provides that the United States may approve a retransfer only if the recipient agrees that the transfer will be subject to the same conditions set forth in that section that would apply to exports from the United States in the quoted export criteria. Therefore, the word "export" (or a variation thereof) is equivalent to the word "retransfer" (or a variation thereof). EURATOM has agreed that the material proposed to be retransferred will become subject to the U.S.-EURATOM Agreements for Cooperation and therefore for the purpose of the discussion below, the material is treated under those agreements as if it had been transferred from the United States.

Criterion (1)

"IAEA safeguards as required by Article III(2) of the Treaty will be applied with respect to any such material or facilities proposed to be exported, to any such material or facilities previously exported and subject to the applicable Agreement for Cooperation, and to any special nuclear material used in or produced through the use thereof."

As a nuclear weapons state, the United Kingdom permits the application of safeguards in connection with the NPT by a trilateral agreement among the United Kingdom, EURATOM, and the IAEA which was signed on September 6, 1976, and entered into force August 14, 1978.

The seven non-nuclear weapons state members of the European Community and the United Kingdom are parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Each of those seven states (Belgium, Denmark, the Federal Republic of Germany, Ireland, Italy, Luxembourg, and The Netherlands) thus undertook the obligation in Article III(1) of the NPT to accept safeguards of the IAEA on all nuclear material in all of its peaceful nuclear activities and to enter into an agreement with the IAEA to that effect.

As permitted by Article III(4) of the NPT, those seven states elected to join in concluding a single agreement with the IAEA (INFCIRC/193). Since they had already assigned to the European Atomic Energy Community (EURATOM) the responsibility and authority to apply safeguards within their territories (rather than each state establishing and maintaining a national system of accounting for and control of nuclear material), EURATOM is also a party to that agreement. The agreement, after approval by the Board of Governors of the IAEA and the European Community and ratification by each of the seven states, entered into force on February 21, 1977.

As in the case of all safeguards agreement between the IAEA and non-nuclear-weapon states pursuant to Article III(1) of the NPT, the agreement with EURATOM and its seven non-nuclear-weapon member states includes provision for the completion by the parties of "Subsidiary Arrangements," setting forth in detail the manner in which the safeguards procedures called for in the agreement are to be carried out. In practice, the Subsidiary Arrangements consist of a general part and, for each of the facilities and locations in which IAEA safeguards are to be applied to nuclear material pursuant to the agreement, individual "Facility Attachments."

The agreement calls for the parties to make every effort to achieve the entry into force of the "Subsidiary Arrangements" within 90 days of the entry into force of the agreement proper. Extension of that period requires agreement among all the parties.

During the period since February 21, 1977, the parties have been negotiating the Subsidiary Arrangements, including facility attachments, for the 205 facilities and locations which currently come within the purview of the agreement. The general part of the Subsidiary Arrangements has been completed and is in effect. As of September 15, 1978, approximately 145 of the Facility Attachments have entered into force and serve as the basis for IAEA safeguards activities at such facilities. About 15 others had been agreed at the negotiating level and the remainder were under active discussion. The parties have agreed to several extensions of the period for completion of the Subsidiary Arrangements, in accordance with the agreement. The latest such extension ended June 26, 1979, with the completion of most of the pending facility attachments.

The EURATOM/IAEA agreement provides, as does every safeguards agreement with the IAEA pursuant to Article III(1) of the NPT, the right to the IAEA to apply in all non-nuclear-weapon states party to such an agreement, the procedures laid down in the agreement, including inspections, as soon as the agreement enters into force, even if the Subsidiary Arrangements are not in force. The agreements do not impose on the IAEA any limitation of access, or frequency, of these inspections prior to completion of Facility Attachments (see e.g.: Articles 71 and 76 of the agreement with EURATOM and its member non-nuclear weapon states, INFCIRC/193). The IAEA has, since the entry into force of the EURATOM-IAEA agreement, increasingly exercised this right to apply procedures and inspections.

The Agency's general approach is to carry out such inspections so as to achieve the same verification goals which they would aim for normally under a Facility Attachment. For example, frequency of visits would be related to timeliness goals. The Agency does, of course, have manpower limitations in this regard, and generally places greater emphasis on facilities involving sensitive material. In some facilities surveillance equipment is employed prior to completion of Facility Attachments, while in other cases inspector presence must be relied upon. In the non-nuclear weapon member states of EURATOM, all facilities with the exception of a few research reactors (LEU-fueled or low power) and other research installations have been inspected by the IAEA.

In summary, it is clear that each of the non-nuclear-weapons state members of EURATOM is a party to the NPT, has fulfilled its obligation under Article III(1) of the NPT, and has an agreement in force with the IAEA in accordance with Article III(4) of the treaty under which the IAEA has clear rights, which are being exercised, to apply safeguards in all relevant facilities.

Therefore, it is the Executive Branch view that criterion (1) is met.

Prior to the coming into force of the IAEA's agreement with EURATOM and its member non-nuclear-weapon states and the implementation by IAEA of that agreement, the United States continued to export enriched uranium and other items to the non-nuclear-weapon member states of EURATOM, notwithstanding the obligation undertaken by the United States in Article III(2) of the NPT to do so only if the source or special fissionable material processed, used or produced shall be subject to IAEA safeguards. The United States did so on the basis of a "rule of reason;" which took into account the circumstances that those states were NPT signatories and were conducting negotiations with IAEA of a safeguards agreement in accordance with Article III(1) of the NPT. The application of EURATOM's safeguards within the territories of those states was also taken into account. More recently, the entry into force of the IAEA/EURATOM safeguards agreement, the progressive completion of facility attachments, and the increasing application of ad hoc IAEA inspections as the Agency made resources available to implement the verification agreement, combined with the continued application of EURATOM safeguards in all facilities, allowed the Executive Branch to adopt the view that the equivalent of criterion (1) is met.

We would note that the EURATOM safeguards system, because of its continuing accountancy and materials control function for the EURATOM Community countries, will remain one of the factors relevant to the judgment of the Executive Branch under Section 131a(1), that a proposed retransfer to one of these states will not be inimical to the common defense and security.

Criterion (2)

"No such material, facilities, or sensitive nuclear technology proposed to be exported and subject to the applicable Agreement for Cooperation, and no special nuclear material produced through the use of such materials, facilities, or sensitive nuclear technology, will be used for research on or development of any nuclear explosive device."

Each Non-Nuclear-Weapon State (NNWS) of the Community is a party to the NPT. As such, it is pledged not to develop nuclear explosive devices for any purpose. This pledge applies to any material, facilities and sensitive nuclear technology previously exported or retransferred to such state by the United States and subject to the United States-EURATOM Agreements for Cooperation and to special nuclear material used in or produced through the use thereof. Since this pledge will apply to the proposed retransfer and to any special nuclear material produced through its use, it is the view of the Executive Branch that criterion (2) would be met with respect to the NNWS of the Community if any subsequent retransfer were made to a NNWS.

With regard to the United Kingdom and France, nuclear weapons states (NWS), the proposed retransfer and any special nuclear material produced through its use, if transferred to a NWS member, will be subject to the continuing applicability of the United States-EURATOM Agreements for Cooperation. Article XI(1) and (3) of the November 8, 1958, Joint Program Agreement, as amended, which is incorporated into the Additional Agreement for Cooperation by virtue of Article V of the Additional Agreement, provides that "no material, including equipment and devices, transferred pursuant to this Agreement" and "no source or special nuclear material utilized in, recovered from, or produced as a result of the use of material, equipment or devices transferred pursuant to this agreement . . . will be used for atomic weapons, or for research or development of atomic weapons or for any other military purpose."

The United States--with the support of most other major nuclear supplier states--has taken the position that nuclear explosive devices are "atomic weapons", within the meaning of this guarantee, regardless of the intended end use of such devices. The Community, which includes the United Kingdom and France, has confirmed this interpretation. Moreover, the United Kingdom and France, as members of the Nuclear Suppliers Group have agreed as a matter of national policy to authorize the export of so called "trigger" list items only upon formal governmental assurances from recipients explicitly excluding uses which would result in any nuclear explosive device and have notified the IAEA to this effect.

Therefore, it is the view of the Executive Branch that the equivalent of criterion (2) is met with respect to this transfer.

Criterion (3)

"Adequate physical security measures will be maintained with respect to such material or facilities proposed tn be exported and to any special nuclear material used in or produced through the use thereof. Following the effective date of any regulations promulgated by the Nuclear Regulatory Commission pursuant to section 304(d) of the NNPA, physical security measures shall be deemed adequate if such measures provide a level of protection equivalent to that required by the applicable regulations."

It is the judgement of the Executive Branch that each member state of the Community has established physical security measures which, as a minimum, meet those recommended in the IAEA's INFCIRC/225/Rev.1, "The Physical Protection of Nuclear Material."

EURATOM (for jointly operated research facilities) and all its member states have provided written physical security assurances which in the judgement of the Executive Branch should be deemed to meet the requirements of Section 127(3) of the Atomic Energy Act, as amended, by providing assurance of a level of protection equivalent to that set forth by the Commission in section 110.43 pursuant to section 304(d) of the Nuclear Non-Proliferation Act of 1978.

Therefore, it is the view of the Executive Branch that criterion (3) is met.

Criterion (4)

"No such materials, facilities, or sensitive nuclear technology proposed to be exported, and no special nuclear material produced through the use of such material, will be retransferred to the jurisdiction of any other nation or group of nations unless the prior approval of the United States is obtained for such retransfer. In addition to other requirements of law, the United States may approve such retransfer only if the nation or group of nations designated to receive such retransfer agrees that it shall be subject to the conditions required by this section."

Article XI(2) of the November 8, 1958 Joint Program Agreement, as amended, which is incorporated in the Additional Agreement for Cooperation, as amended, by Article V of the latter Agreement, also provides that no material (including equipment and devices) may be transferred beyond the control of the EURATOM Community, unless the United States agrees.

Article 1 bis D of the Additional Agreement for Cooperation, as amended, provides that special nuclear material produced through the use of United States-supplied material may be exported to any nation outside the Community or to a group of nations, provided that such nation or group of nations has an appropriate Agreement for Cooperation with the United States or guarantees the peaceful use of the produced material under safeguards acceptable to the Community and the United States. The European Community's interpretation of this language--as set out in an April 15, 1977 letter to the Department of State from Fernand Spaak, Head of the Delegation of the Commission of the European Communities--is that the European Community Supply Agency, prior to any proposed transfer, will consult with the United States to determine whether, in the view of the United States, the proposed recipient of such produced special nuclear material has an Agreement for Cooperation with the United States which is "appropriate."

During discussions with representatives of the Community held in Washington on November 1, 1978, the European Community confirmed that material subject to Article 1 Bis D could not be transferred outside of the Community unless the U.S. agreed that the recipient countries or group of nations had an appropriate Agreement for Cooperation with the U.S. or safeguards acceptable to both parties.

Therefore, it is the Executive Branch view that, with regard to the proposed retransfer and special nuclear material produced through its use, criterion (4) is met. However, it should be noted that since the U.S.-EURATOM Agreements for Cooperation were authorized in accordance with Section 124 of the Atomic Energy Act, the Commission may continue to issue export licenses until March 10, 1981 pursuant to the authority in the first proviso in Section 126a(2), even if criterion (4) were not met.

With respect to transfers within the Community, it should be noted that the use of the words "group of nations" in criterion (4) makes clear that no retransfer consent right is required within a group of nations under this criteria. With respect to this provision, the Senate report states:

> "It should be noted that under the U.S.-EURATOM Agreements, the United States does have a right of prior approval on retransfers of certain material outside of the EURATOM Community. It should also be noted that paragraph 4 does not require prior approval with respect to transfers within the EURATOM Community, consisent with United States policy of treating that Community as a entity."

The Congressional intent, in connection with exports, not to require consent rights for transfers within the Community is also clear in Section 123a(5) of the Atomic Energy Act of 1954, as amended, since it requires that the United States seek a guarantee "by the cooperating party" (which, in this case, is EURATOM as a whole).

However, the Executive Branch, before passage of the Nuclear Non-Proliferation Act of 1978, took the position that, with respect to retransfers into EURATOM, it was important to keep retransfers for reprocessing limited as much as possible to control the use and transfer of separated materials, especially plutonium. Therefore, the case-by-case approach was developed and the system of control by commitment from the non-EURATOM shipping country, as described earlier, was developed.

Criterion (5)

"No such material proposed to be exported and no special nuclear material produced through the use of such material will be reprocessed, and no irradiated fuel elements containing such material removed from a reactor shall be altered in form or content, unless the prior approval of the United States is obtained for such reprocessing or alteration."

The purpose of this proposed subsequent arrangement is, of course, for reprocessing. However, EURATOM was expressly exempted from criterion (5) by virtue of Section 126.a.(2) of the Act for a period of two years from March 10, 1978, in as much as the Department of State notified the Nuclear Regulatory Commission on July 20, 1978, that EURATOM has agreed to negotiations with the United States as called for in Section 404(a) of the Nuclear Non-Proliferation Act of 1978. Executive Order 12193 extends the duration of the period specified in the first proviso to Section 126.a. (2) of the Act to March 10, 1981. However, this exemption in no way derogates from the rights which the United States has under the United States-EURATOM Agreements for Cooperation and under the commitments from the non-EURATOM shipping country (Switzerland).

Therefore, in the view of the Executive Branch, criterion (5) is satisfied.

Criterion (6)

"No such sensitive nuclear technology shall be exported unless the foregoing conditions shall be applied to any nuclear material or equipment which is produced or constructed under the jurisdiction of the recipient nation or group of nations by or through the use of any such exported sensitive nuclear technology."

The proposed retransfer does not involve sensitive nuclear technology Criterion (6) therefore, is not applicable.

Section 131 of the Atomic Energy Act of 1954, as amended

This request falls under the definition of a subsequent arrangement in Section 131a(2)B of the Atomic Energy Act of 1954, as amended (Act), and requires the concurrence of the State Department, and consultation with the Arms Control and Disarmament Agency (ACDA), the Nuclear Regulatory Commission (NRC), the Department of Defense (DOD), and the Department of Commerce (DOC). ACDA may, if it deems necessary, prepare a Nuclear Proliferation Assessment Statement. None has been deemed necessary for this subsequent arrangement.

Notice of the proposed subsequent arrangement must appear for at least 15 days in the Federal Register before the retransfer is approved, together with the written determination of the Department of Energy (DOE) that this arrangement will not be inimical to the common defense and security. This determination has been made. The required Federal Register notice has been published. Under Section 131b(1) of the Act, this retransfer cannot be approved until the Committee on Foreign Affairs of the House of Representatives and the Committee on Foreign Relations of the Senate have been provided with a report containing the reasons for entering into the arrangement and a period of 15 days has elapsed; provided that the Secretary of Energy (by delegation from the President under E.O. 12058) can declare an emergency due to unforeseen circumstances, the period shall be 15 calendar days.

The applicable provisions of Section 131(b) of the Act stipulate important criteria that must be taken into account prior to entering into any subsequent arrangement for the retransfer for reprocessing of U.S.-supplied special nuclear materials or of special nuclear materials produced through U.S. assistance. While a distinction is drawn in Sections 131b(2) and 131b(3) of the Act between facilities which have and have not reprocessed power reactor fuel assemblies or that have or have not been the subject of subsequent arrangements prior to the enactment of the Act, common policy objectives clearly apply to both paragraphs.

These provisions pertain to whether the proposed retransfer, inter alia, will result in a significant increase in the risk of proliferation beyond that which exists at the time that approval is requested.

In particular, Section 131b(2) of the Act provides that:

> "(2) The Secretary of Energy may not enter into any subsequent arrangement for the reprocessing of any such material in a facility which has not processed power reactor fuel assemblies or been the subject of a subsequent arrangement therefor

prior to the date of enactment of the Nuclear Non-Proliferation Act of 1978 or for subsequent retransfer to a non-nuclear-weapon state of any plutonium in quantities greater than 500 grams resulting from such reprocessing unless, in his judgment, and that of the Secretary of State, such reprocessing or retransfer will not result in a significant increase of the risk of proliferation beyond that which exists at the time that approval is requested. Among all the factors in making this judgment, foremost consideration will be given to whether or not the reprocessing or retransfer will take place under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which the non-nuclear-weapon state could transform the diverted material into a nuclear explosive device."

Section 131b(3) of the Act provides that:

"(3) the Secretary of Energy shall attempt to ensure, in entering into any subsequent arrangement for the reprocessing of any such material in any facilility that has processed power reactor fuel assemblies or been the subject of a subsequent arrangement therefor prior to the date of enactment of the Nuclear Non-Proliferation Act of 1978, or for the subsequent retransfer to any non-nuclear-weapon state of any plutonium in quantities greater than 500 grams resulting from such reprocessing, that such reprocessing or retransfer shall take place under conditions comparable to those which in his view, and that of the Secretary of State, satisfy the standards set forth in paragraph (2)."

The spent fuel in this case will be reprocessed in the THORP facility yet to be built at the Windscale site in the United Kingdom. Therefore, this transfer will be analyzed under section 131b(2) of the Act.

Safeguards Implementation

The IAEA Secretariat has noted in its Special Safeguards Implementation Report that with regard to nuclear material subject to IAEA safeguards, while some deficiencies exist in the system, no diversion of a significant quantity of nuclear material was detected in any of the 45 states in which inspections were carried out. Although recognizing the need to correct existing deficiencies in safeguards implementation, the Executive Branch has no reason to believe that the IAEA Secretariat's report is not valid. In the light of this and other factors associated with the proposed export, the Executive Branch believes the framework of commitments, assurances, and safeguards is adequate for the purpose of this proposed transfer.

EMBASSY OF SWITZERLAND
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July 23, 1980

Mr. Frederick F. Mc Goldrick
Deputy Director for Nuclear Affairs
International Nuclear and Technical
Programs
U.S. Department of Energy
Washington, D.C. 20585

Subject: RTD/EU(SD)-30

Dear Mr. Mc Goldrick:

Thank you very much for your letter dated June 20, 1980, concerning the MB-10 retransfer approval documents authorizing the retransfer of enriched uranium in spent fuel elements from the Beznau I power plant, Switzerland, to the BNFL plant in Windscale, United Kingdom.

It is our understanding that:

1) The spent fuel would be stored by BNFL until it is reprocessed and, thereafter, the recovered uranium and plutonium will be retained by BNFL subject to direction by NOK.

2) Any directions by NOK to BNFL for the transfer or use of the recovered uranium and plutonium would be subject to the prior approval of the U.S. Government, which will attempt to deal with the matter in a timely and expeditious manner. Retransfer of these recovered materials outside of EURATOM would, of course, be subject to prior U.S. approval in accordance with the applicable agreement for cooperation between the U.S. and EURATOM.

3) It also would be our understanding (in the event of approval) that if prior to actual reprocessing, there are international agreements on new fuel supply arrangements including reprocessing or orther disposition of irradiated fuel, consultation would be held between our governments to determine whether the new

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arrangements would apply to this fuel. Further, in event the U.S. approves the MB-10 it would not intend to revoke its approval, although it would be possible for the parties concerned to agree upon new arrangements.

Sincerely yours,

R. E. Müller

R.E. Müller
Energy Counselor