

JAN 21 1980

SECY-79-674A

For: The Commissioners

From: James R. Shea, Director
Office of International Programs

Thru: Executive Director for Operations (Signed) Lee V. Gossink

(U) Subject: EXPORT OF COMPONENTS TO INDIA FOR THE TARAPUR REACTORS
(XCOM0250) (SECY-79-647)

(U) Purpose: To request a Commission decision on the subject proposed export.

(U) Background: In April of last year, in connection with our review of several license applications for export of components for Tarapur (XCOM00020, XCOM0084 and XCOM0130), and in light of the Commission approval in March of the latest license application for Tarapur fuel, IP advised the Commission of its intention to issue then-pending and future export licenses for components for which favorable Executive Branch views had been received without referring such requests to the Commission, provided the components involved were standard items required for the normal operation of the Tarapur reactors while they are using US-supplied fuel (SECY-79-260, April 13, 1979). By SECY memorandum of April 30, 1979, however, the staff was directed to continue to submit Indian component license applications to the Commission for action.

(U) On May 10, 1979, we received an application from General Electric for the export of six traversing in-core probe detector assemblies (TIPs) to India for use in Tarapur Units I and II (XCOM0280). These components, as noted in SECY-79-674, are used to calibrate reactor power monitors within the core. Since faulty TIPs could possibly lead to a serious accident if a reactor transient occurred, the staff concluded that the TIPs are essential to the safe operation of these reactors. The Commission was advised of GE's application in SECY-79-338 (May 16). On May 25, in connection with our review of the next proposed export of low enriched fuel to India (XSNM-1379), we requested that State provide information that may be relevant to NRC's findings in that case. By memorandum of June 22, Commissioner Ahearne requested that we encourage State to respond to that inquiry since much of the information that had been requested was relevant to our review

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Contact:
W. Upshaw, IP (492-8155)

MULTIPLE SOURCES

OFFICE OF INTERNATIONAL PROGRAMS	Classified by	Declassify	January 18, 1980
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Administrative and Criminal sanctions	[X] Review	Derivative Classifier:	Lee

Background:
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of XCOM0250. A response was received from State on July 5. Following the fall of the Indian Government, we requested additional information on August 15 and advised State at that time that the Commission would defer its final consideration of three export license applications (one of which was XCOM0250) until receipt of a response to that letter.

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On October 22, State provided favorable views on XCOM0250. State has not yet responded to our August 15 letter; however, with the installation of the new Gandhi government we expect an early response, probably before or in conjunction with the Executive Branch briefing now scheduled for January 29.

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By SECY-79-674 (December 19, 1979), the staff advised the Commission of the status of the subject export license application. In our review we advised the Commission of the importance of these components to the safe operation of the Tarapur reactors, while at the same time noting that substantive questions remain about whether component exports to Tarapur meet the NNPA export licensing criteria. Accordingly, the staff indicated that, unless the Commission directed otherwise, it would defer action on XCOM0250 and other Tarapur component cases, at least until the Executive Branch had provided its assessment of the implications of changes in the Indian Government leadership. By SECY memorandum of January 9, the staff was directed to submit XCOM0250 to the Commission for action.

(U) Discussion:

In order to issue a component export license under Section 109b., the Commission must find, "based on a reasonable judgment of the assurances provided and other information available to the Federal Government, including the Commission, that the following criteria or their equivalent are met: (1) IAEA safeguards as required by Article III(2) of the Treaty will be applied with respect to such components, substance, or item; (2) no such component, substance, or item will be used for any nuclear explosive device or for research on or development of any nuclear explosive device; and (3) no such component, substance, or item will be retransferred to the jurisdiction of any other nation or group of nations unless the prior consent of the United States is obtained for such retransfer; and after determining in writing that the issuance of each such general or specific license or category of licenses will not be inimical to the common defense and security."

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Under Section 109b. the Commission is also directed to determine which component parts, as defined in subsection 11v.(2) or 11cc (2), are especially relevant from the standpoint of export control because of their significance for nuclear explosive purposes. Theoretically, the Commission could determine that, in view of their safety purpose, these components are not "especially relevant," so that the criteria would not apply and the Commission would not have export licensing jurisdiction over them. However, revised Part 110, adopted by the Commission in May 1978 to implement the

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SURNAME						
DATE						

NNPA, includes, as components licensable under Section 109b. of the Atomic Energy Act of 1954, as amended, components (other than a component defined as a facility) "specially designed or prepared for use in a nuclear reactor" (see Appendix A of Part 110).

(U)

Thus, components specially designed or prepared for use in a nuclear reactor are, by their inclusion in Appendix A of Part 110, considered to be "especially relevant from the standpoint of export control because of their significance for nuclear explosive purposes." As noted in the statement of considerations published with revised Part 110 on May 19, 1978, the components, items and substances selected for NRC's export control are essentially those on the Nuclear Suppliers' Group and IAEA Zangger Committee trigger lists, thus reflecting an international consensus on items considered to be significant for nuclear explosive purposes. Although not spelled out in the statement of considerations, all components specially designed for use in a nuclear reactor have been considered significant for nuclear explosive purposes because they contribute to the operation of nuclear reactors producing plutonium, which is, of course, significant for nuclear explosive purposes. It is clear that the XCOM0280 components are specially designed for use in a nuclear reactor.

(U) Urgency:

We have called this case to State Department's attention, but to date we have not received any expressions of urgency regarding this export from the Indian Government or the State Department. The applicant has, however, expressed urgency.

(U)

By letter of January 11, 1980, General Electric advised the staff that the one spare TIP available at Tarapur was used to replace a failed TIP during the fall 1979 shutdown for refueling Unit II. That reactor is currently operating with a good TIP and a marginal one. (GE advised us that a marginal component is one that is either faulty or subject to malfunction at any time.)

GE also advised us that Tarapur Unit I was shut down for refueling and maintenance on November 28, 1979 and is scheduled to return to service on February 28, 1980. GE has expressed a strong desire to be able to export these components so that the marginal TIPs in TAPS I may be replaced prior to that date. GE has stated, however, that in order for the TIPs to be replaced before that date, very early approval of XCOM0250 would be required since after receipt of notification of approval, GE must complete arrangements for air shipment to Bombay, and arrangements must be made for inspection of the TIPs, preparation, removal of marginal TIPs to storage casks, and installation of

OFFICE
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Urgency:
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the spares. In GE's estimation, scarcely enough time remains to accomplish the above even if the license is issued on an urgent basis. GE has advised that without the spares, Tarapur Unit II would have to remain inoperative until the TIPs are exported and replaced, or the Indians could attempt potentially unsafe startup of the Unit with faulty instrumentation, if Government of India safety regulations permit. (GE is presently unaware of Indian Government regulations in this regard, but is attempting to determine if such a startup would be allowed.)

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In SECY-79-674, as indicated above, IP pointed out that the export of the detectors to Tarapur is reasonable and necessary for the continued safe operation of that facility. On January 11 we met with technical staff members of the Core Performance Branch, DSS, to learn more fully the importance of TIPs in the operation of a reactor. IP was advised that TIPs are essential in determining the nature of reactor core activities. Specifically, the TIP (Traversing In-core Probe) system is used to calibrate the LPRMs (Local Power Range Monitors). The LPRMs are combined in particular ways to form the Average Power Range Monitor (APRM) system which is used as a reactor power input to the reactor protection system. The reactor protection system will not assure that the reactor is shut down in response to severe transients or accidents if the reactor power input is incorrect.

(U)

In addition, the LPRM outputs are used by the plant computer to obtain the core power distribution during operation. Decalibration of only a few of the LPRMs could lead to operation of the reactor in a manner such that the initial conditions assumed for anticipated transients and accidents are incorrect.

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Without properly functioning TIPs and proper calibration of the in-core instrumentation a number of possibly serious consequences could result in the event of a reactor transient, including, for instance, the failure of the APRM scram system, the failure of the Rod Block Monitor system (leading to improperly spaced control rods and a possible overpeak power incursion) and the failure of fuel elements and fuel melting due to operation above critical heat flux levels.

Given the above, several possible options are available to the Commission:

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SURNAME					
DATE					

Urgency:
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- (1) Determine whether the criteria in Section 109b. are or are not met and decide this case solely on that basis.

The staff notes that the criteria in Section 109b. are the same as those in Section 127 (which pertain to fuel exports), except that components are not required to meet the physical security and no reprocessing criteria. Accordingly, if it is determined that the three criteria in Section 109b. are met for the components in XCOM 0250, it appears that a similar conclusion on the three criteria would be required for the components covered by XCOM 0240 and for the currently pending Tarapur fuel case, even though the Commission still has questions related to all these cases outstanding at State Department. The Commission, as noted above, concluded the criteria were met in March 1979 for XSNM-1222, and perhaps could conclude that, while uncertainties had increased since then, the criteria continue to be met. In this event, the license could be issued promptly and safety risks minimized while statutory obligations would be complied with. If the Commission decided that it could not find that the criteria had been met at this time, and thereby denied the license, the potential safety problem at Tarapur would, of course, remain until the matter might be further resolved.

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- (2) Find that the components involved are not covered by Section 109b. and thus are not subject to NRC licensing requirements.

As noted above, under the NNPA this would require a finding that the components involved are not especially relevant from the standpoint of export control because of their significance for nuclear explosive purposes. It might be argued on the one hand that, because they contribute to the safe operation of the reactor rather than to its direct functioning, and are not in themselves of concern from the nonproliferation point of view, these components are not of significance for nuclear explosive purposes.

(U)

On the other hand, it can be argued that because reactors cannot be operated safely without these components, they do directly contribute to the functioning of the reactor and its production of plutonium, which is of nuclear explosives significance. Further, the argument that the components are not in themselves of concern from the proliferation standpoint might also be made for other components not falling within the definition of "utilization facility," to conclude that these components are not of nuclear explosive significance would also be inconsistent with the international consensus reflected in the Nuclear Suppliers and Zangger Committee trigger lists. This option would open up the complicated question of what other components now covered by Part 110 should be in this category and such a finding for

OFFICE
SURNAME
DATE

these components would also have to be applicable to all countries, not just India. Consultation with the Executive Branch, which can be expected to be time-consuming, would also be required under Part 110 for such determinations. Finally, the effect of such a determination would be that the NRC would no longer have jurisdiction to issue a license for export of such components, nor would the Department of Commerce.

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- (3) Determine that XCOM 0250 should be issued on the basis that the components are urgently needed for safety reasons.

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Under this option, which assumes the Commission cannot find the criteria are met, the case might be made that safety comes first, and since these components are urgently needed and essential to the safe operation of the Tarapur reactors, are not directly applicable for nuclear explosive purposes, and would be expected to be usable only for about the next year (during a period when previously exported U.S.-origin fuel would be used in the Tarapur reactors), it would be appropriate for overall policy considerations to allow the export to be approved, despite the inability to make positive findings on the three Section 109 criteria. This approach could avoid a possible safety problem, or even perhaps a significant accident at Tarapur, and avoid possible criticism of the Commission as unwilling to act when fundamental safety problems are involved. However, if the Commission cannot find the criteria are met, it would, if it chose this option, be ignoring its statutory obligations out of a concern for safety (a criterion not included as a basis for component export license approvals in Section 109, as noted by the staff in SECY-79-100) and could be criticized on this account. In addition, while the Commission currently has the matter under review in its hearing on the Philippine reactor export, the Commission has taken the position in the Buergeraktion and Tarapur cases that it does not have authority or responsibility to take into account health and safety aspects of exported reactors; to approve this export on safety grounds would be in direct conflict with this position and tend to prejudice the outcome of the Commission's deliberations in the Philippine case.

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- (4) Defer action on this application pending receipt of additional information from State concerning the recent change in the Indian Government.

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State has indicated it plans to respond to our August 15 letter before or in conjunction with their scheduled January 29 Commission briefing. This option would result in a delay in approval of the export until at least then, with possible safety ramifications during this additional time and with no assurance that the State

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JAN 29 1980

response will be such as to bring about positive Commission findings on these components. At the same time, it holds out at least a possibility that statutory requirements could be found to be satisfied before safety risks, especially for the Tarapur II reactor, might become too great.

- (U) Recommendation: The staff believes that this case presents a very difficult dilemma for the Commission, in which apparently urgent safety considerations might be in conflict with the need to observe statutory requirements, and with past Commission positions regarding health and safety considerations in export licensing. The staff believes the Commission should weigh all factors outlined above and make a determination on this issue as soon as possible. Recognizing the majority view that the NNPA criteria were met in XSNM 1222, and changes in circumstances since then, a key issue in this case is whether the Commission now believes that these changes are such as to call for a conclusion that the criteria are no longer met. The staff does not have sufficient data to conclude the criteria are met, particularly in the absence of a response from State to our questions, and believes that the Commission should find the Section 109 criteria are met before approving this export. Other considerations such as safety can be taken into account as appropriate under the common defense and security finding. The Commission should also consider informing key Congressional leaders involved in development and implementation of the NNPA or concerned about export health and safety issues of the Commission decision in this case and the basis for it.
- (U) Coordination: ELD views are attached.

Original Signed By: JAN 18 1980
James R. Shea
James R. Shea, Director
Office of International Programs

Enclosure:
ELD Views

OFFICE	IP:IE	ELD	IP:IR		
SURNAME	H. Shear	H. Shear	J. Shea		
DATE	1/18/80	1/18/80	1/18/80	1/18/80	

OELD'S VIEWS

The paper on the one hand offers as an option that the Commission determine that the license should be issued on the basis that the components are urgently needed for safety reasons, while on the other hand, conceding that such an option could only be chosen by ignoring the statutory obligation to make affirmative findings on the three criteria for the issuance of a component export license in section 109b.

It seems important in the context of the case presented for action for the Commission to focus on two points:

- (1) Unless the Commission changes its general position as to consideration of health and safety in export licensing set out in the Buergeraktion and Tarapur cases, the articulated basis for the grant or denial of an export license ought not to be on safety grounds but solely on consideration of the three criteria in section 109b.
- (2) The Commission has sufficient flexibility to either find that the statutory criteria have been met or reach the opposite conclusion.

On the first point, it should be noted that even if the Commission changed or reversed its position in the Buergeraktion and Tarapur cases, it would be difficult to apply its new position to component licensing. As noted in SECY-79-100, even if sections 103d., 104d., and 57c.(2) are regarded as providing an arguable statutory basis for considering public health and safety in licensing the export of facilities or special nuclear material, because those sections contain, as a statutory standard, non-inimicality to the public health and safety (construed to mean the public health and safety of the United States), section 109, under which components are licensed, contains no reference to public health and safety as a criteria for issuance of a component export license. Further, in no event has the Commission ever taken the position that it can issue a license unless all applicable criteria are met.

As to the second point, it was OELD's position at the time of consideration of XSNM-1222 that the Commission has flexibility under the law and surrounding circumstances, to conclude either that the three (in that case, five) criteria are met, or to reach the opposite conclusion, based on the analysis in the OELD views attached to SECY-596A and in the OELD memorandum to the Chairman and the Commissioners dated February 1, 1979. OELD's basic legal conclusions have not changed, although circumstances have changed somewhat since those views were developed. The changed circumstances that are pertinent include (1) the fact that the March 10, 1980 cut-off date is near without India agreeing to full scope

safeguards, making cut-off of fuel exports to India imminent and (2) the election of a new Government in India which has not indicated its views concerning continuation of agreement for cooperation obligations by India after the March 10, 1980 cut-off date.

However, there is no information in the paper that shows conclusively that changed circumstances require a finding that the criteria have not been met. As a legal matter, the Commission has flexibility to find either that the criteria are, or are not met, or that it needs the information requested of State on August 15, 1979 or additional information before reaching a conclusion.