

# EXPORT LICENSING OF ADVANCED TECHNOLOGY: A REVIEW

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON  
INTERNATIONAL TRADE AND COMMERCE  
OF THE  
COMMITTEE ON  
INTERNATIONAL RELATIONS  
HOUSE OF REPRESENTATIVES  
NINETY-FOURTH CONGRESS  
SECOND SESSION

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PART II  
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APRIL 12, 1976  
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## EXPORT LICENSING OF ADVANCED TECHNOLOGY: A REVIEW

MONDAY, APRIL 12, 1976

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON INTERNATIONAL RELATIONS,  
SUBCOMMITTEE ON INTERNATIONAL TRADE AND COMMERCE,  
*Washington, D.C.*

The subcommittee met at 2:15 p.m. in room 2200, Rayburn House Office Building, Hon. Jonathan B. Bingham (chairman of the subcommittee) presiding.

Mr. BINGHAM. The Subcommittee on International Trade and Commerce will be in order.

I have a short statement. In view of the time, I will defer that.

Under the rules, a quorum is necessary for a motion to go into executive session and a rolcall vote is in order. I will entertain such a motion.

Mr. BIESTER. I so move.

Mr. BINGHAM. Call the roll.

Mr. MAJAK [subcommittee staff consultant]. Mr. Bingham.

Mr. BINGHAM. Aye.

Mr. MAJAK. Mr. Fraser.

Mr. FRASER. Aye.

Mr. MAJAK. Mr. Taylor.

[No response.]

Mr. MAJAK. Mr. Bonker.

[No response.]

Mr. MAJAK. Mr. Studds.

[No response.]

Mr. MAJAK. Mr. Biester.

Mr. BIESTER. Aye.

Mr. MAJAK. Mr. Whalen.

Mr. WHALEN. Aye.

Mr. MAJAK. The vote is four to zero.

Mr. BINGHAM. That being the case, that motion can go into effect following the reconvening of the session.

The committee will stand in recess, then, for about 10 minutes.

[Whereupon, at 2:20 p.m. the subcommittee took a short recess, after which it proceeded in executive session.]

**EXECUTIVE SESSION**

Mr. BINGHAM. The Subcommittee on International Trade and Commerce will resume its session.

Today, this subcommittee concludes its hearings on the export licensing of advanced technology.

We have heard testimony that the intelligence community plays an important role in the export-licensing process, particularly in determining the foreign availability of goods and technology and in estimating the potential impact of goods and technology in the military capability of other countries. This afternoon we have witnesses from the Central Intelligence Agency and the Defense Intelligence Agency to describe their role in greater detail.

We have also been informed in previous testimony of two specific cases which we wish to explore in some depth. The first involves the licensing for export in 1972 of precision grinding machines, made by the Bryant Grinder Corp., which, it is alleged, have been instrumental in enabling the Soviet Union to produce precision ball bearings for use in the guidance system of MIRV's.

The second involves the 1975 agreement between Rolls Royce, Ltd. and the People's Republic of China for the sale of supersonic military aircraft engines and production technology, allegedly made without reference to COCOM.

We have asked witnesses from the Departments of Commerce, State, and Defense to join our intelligence community witnesses in discussing the contribution of all concerned U.S. Government agencies in these important cases.

Now, in executive session, let me make clear at the outset that the subcommittee recognizes that the intelligence agencies represented here today do not make or implement policy in the export control field. We appreciate fully that their role is an advisory one. The advice they provide, however, is especially important given the factors which the decisionmaking agencies must weigh. Our purpose in this hearing is to try to get a better understanding of the nature of the advice the intelligence agencies are able to offer policymakers in the export control field.

In reviewing certain specific cases, we have no intention of seeking recriminations. We are, of course, interested in the specific facts of these cases, and in any differences of view that may have existed—or that may now exist—between intelligence advisers and policymakers.

But our purpose is not to take sides or to sit in judgment of particular agencies. The issues raised by these cases are particularly difficult ones, and the subcommittee would fully expect that there might be differences of view among agencies.

What we are interested in is the range of views considered in these cases, how they were resolved, and what this may tell us about the adequacy of the export control procedures which Congress established and is now reviewing.

With this in mind, I hope and trust that all the agencies represented here will feel free to present their views fully and candidly without apprehension that their positions might in any way be used against them.

We will first hear from Mr. Robert Kovach, of the Office of Economic Research, who is accompanied by Mr. Robert Fraser of the

same office; Mr. Herbert Thomas, of the Office of Strategic Research; Mr. Robert Hepworth, Office of Current Intelligence; and Mr. Thomas White, Office of the Legislative Counsel—all of these being with the Central Intelligence Agency.

Mr. Kovach.

**STATEMENT OF ROBERT KOVACH, OFFICE OF ECONOMIC RESEARCH,  
CENTRAL INTELLIGENCE AGENCY**

Mr. KOVACH. I don't think Mr. Hepworth is here, sir.

Mr. Chairman, first, I would like to give you a brief description of CIA's role in the governmental process of export licensing and advanced technology. More specifically, I will speak to the Agency's role in providing intelligence inputs to the two interagency committees dealing with the export control commodities and technology to Communist destinations.

I will also explain briefly CIA's role in the two cases mentioned in your letter of March 26, one dealing with Bryant bearing grinders, and the other with the Spey jet engine.<sup>1</sup> I will then try to respond to any questions you may have on these cases.

Mr. Fraser will assist me on the Bryant case and Mr. Thomas on the Spey engines.

**CIA ROLE IN EXPORT LICENSING**

CIA's role is to serve as an intelligence adviser to these committees, to assist the committee members to make their decisions. With one exception, it does not participate in committee decisions to approve or deny export licenses. [Security deletion.]

The Office of Economic Research represents CIA on these committees. It relies not only on its own analysts for support, but also on other CIA components, such as the Office of Strategic Research, the Office of Scientific Intelligence, and the Office of Weapons Intelligence—all of whom are in regular contact with other members of the intelligence community.

The types of intelligence support that CIA provides can include:

An evaluation of the state of the art in the U.S.S.R. or other Communist countries producing the controlled equipment in question;

An evaluation of production facilities, capacity, and quality;  
R. & D. facilities;

An assessment of whether the stated end use of the item in question seems legitimate, particularly if the end user produces for the military.

CIA also participates in the periodic reviews of export control lists to update them in accordance with changing technologies and Communist capabilities. CIA is called on to make intelligence inputs on at least some of the items under consideration. The most recent exercise was the COCOM list review completed last year.

CIA actively seeks to discover diversions of controlled commodities to denied destinations and reports its findings to members of the interagency committees. [Security deletion.]

<sup>1</sup> The letter referred to appears on p. 23.

CIA makes inputs and sometimes provides intelligence advisers to the Technical Advisory Committees—joint business-Government groups who furnish technical support to Commerce's Office of Export Administration—and technical task groups—Government technicians in support of the two interagency committees.

In April 1972, the CIA representative on the Operating Committee—a standing subcommittee of ACEP, the interagency committee supporting the U.S. export control program—was asked by the chairman and other committee members to provide information on the designated end user—what it produces and for whom; the state of the art of the Soviet bearings industry, including the quantity and quality of internal grinders and miniature bearings produced; the impact of importing internal grinders and bearings from the West, and other related information.

CIA was able to provide some, but not all of the data requested. Among other things, CIA's assessment of the Soviet bearings industry was that it had problems producing miniature and precision bearings. [Security deletion.]

I neglected, Mr. Chairman, to add another paragraph in here. I think if you don't mind I will just read this one.

We also reported that Youvard of Switzerland produced internal grinding machines [security deletion], and that the U.S.S.R. imported miniature precision bearings at least in 1969-70.

The reason I am adding that is I thought perhaps this would give a little more balance to the contributions that we made which were lacking in the original copy which I sent forward.

On the Spey engine case, this came to the attention of the interagency committee supporting COCOM in 1973. CIA was not asked to make an input. The same held true when the contract was signed in December 1975.

That concludes my statement, Mr. Chairman.

Mr. BINGHAM. Thank you, Mr. Kovach. Is that all of the preliminary statements from the CIA?

Mr. KOVACH. That is correct.

Mr. BINGHAM. Now, from the Department of Defense, Mr. Edwin Speaker, Office of the Deputy Director for Scientific and Technical Intelligence, Defense Intelligence Agency; accompanied by Dr. Maurice J. Mountain, Office of the Assistant Secretary for International Security Affairs.

**STATEMENT OF EDWIN E. SPEAKER, OFFICE OF THE DEPUTY DIRECTOR FOR SCIENTIFIC AND TECHNICAL INTELLIGENCE, DEFENSE INTELLIGENCE AGENCY, DEPARTMENT OF DEFENSE**

Mr. SPEAKER. Mr. Chairman, I am Edwin E. Speaker from the Defense Intelligence Agency. My position is Chief of the Weapons and Systems Division in the Directorate for Scientific and Technical Intelligence. I am here on behalf of the Director, Defense Intelligence Agency, to respond to questions raised in your letter to General Tighe of March 26, 1976.<sup>1</sup> With your permission, I have prepared some remarks for delivery at this time and for the record.

<sup>1</sup> The letter to General Tighe appears on p. 24.

## DIA ROLE IN EXPORT CONTROL

The Defense Intelligence Agency's Directorate for Scientific and Technical Intelligence is the focal point for coordinating DOD intelligence on foreign technology and weapon system capabilities. We provide the Department of Defense with staff expertise on foreign technology and weapon systems in support of various elements of the Office of the Secretary of Defense, such as the Director of Defense Research and Engineering—DDR & E—the Assistant Secretary for International Security Affairs—OASD/ISA—and the Director of Defense Advanced Research Projects Agency—DARPA.

We also conduct inhouse studies on foreign technology and weapon systems. The Directorate for Scientific and Technical Intelligence is the DIA focal point for questions related to export control matters. We respond to requests from OASD/ISA's Directorate for Strategic Trade and Disclosure and to the Joint Chiefs of Staff.

During the 1971-72 review of the COCOM International List and the subsequent review of the U.S. Commodity Control List, we responded to dozens of requests for information. While many requests are of a formal nature, DIA also exchanges information with ISA through numerous telephone conversations. Though we have no record that ISA came to us on either of the two particular cases you have asked us to address, most of our information on Soviet machining capabilities had been made available to ISA during the 1972-72 International List review.

In April 1975, we participated with the military services on a JCS paper which dealt with [security deletion] the embargo of aircraft, helicopters, and aircraft engines. Thus, in both cases available intelligence information was fairly well known to ISA personnel. I will defer questions 1 and 2 in your letter to representatives from OASD/ISA. Those are your questions about what we did on the particular cases in question, since apparently, according to our records, we were not specifically involved.

From the intelligence community's standpoint, the difficulty in rendering opinions on export cases is the limited data that we have to deal with when discussing the military implications of a sale of a particular machine tool, laboratory instrument, electronic device, or semifinished materials to a closed society as represented by the Soviet Union and the People's Republic of China—PRC.

The decisions often turn on fine points of technology and we, in DIA, and elsewhere in the intelligence community, rarely have sufficient expertise to provide totally unambiguous judgments as to the precise military implications of any particular sale. However, we frequently contribute important pieces of information which form a vital part of the U.S. position.

I would now like to address our assessments of the two cases which this subcommittee has asked us to respond to: (1) The export of machine tools to the Soviet Union by the Bryant Grinder Corp.; and (2) the 1975 Spey engine agreement between Rolls Royce and the People's Republic of China.

## BRYANT GRINDER CASE

The Bryant Grinder case—current assessment of the technical aspects of the Bryant Grinder Corp. sale.

The Soviet Union, in [security deletion] 1972, began the flight tests of a new series of ICBM's using newly designed guidance equipment. The first [security deletion] flights involved a single reentry vehicle on each missile. However, in [security deletion] 1973, the Soviets successfully launched their first multiple independently targetable reentry vehicles—MIRV's—on the new missiles. Production, component, and subsystem testing of the MIRV guidance systems must have been initiated and extensively tested for a period of 2 to 3 years prior to this first MIRV test.

On August 28, 1972 the Department of Commerce approved the export to the Soviet Union of 168 grinders manufactured by the Bryant Grinder Corp. of Springfield, Vt.

It is rare that we can specifically identify and associate a single Soviet hardware development such as MIRV's with a specific export of technology or, in this case, with manufacturing equipment. And this case is no exception.

We know that the Soviets have produced reasonably good gyroscopes and accelerometers which have been flown in ICBM's prior to the sale of these grinding machines. [Security deletion] the precision of the Bryant machines would help to solve this problem.

[Security deletion.]

Also, in the early 1960's, about the time that the Soviets were initially contacting the Bryant Grinder Corp., it is reported that they successfully received [security deletion] grinders from the Swiss company, Voumard Machines, and [security deletion].

In the early 1960's, it has been reported that the planned production of miniature bearings at the Kuybyshev-State Bearing Plant No. 4—the recipient [security deletion] of the Bryant grinders—was to be 60 million units per year during the late 1960's. The maximum estimated output of the grinders exported by Bryant in 1972 could by themselves produce nearly 60 million units in a 3-shift, 6-day workweek per year.

However, it should be understood that the grinding operation, and the accuracy of the grinding is but one of many operations in the manufacturing of precision ball bearings. The high standards of instrument quality bearings causes a very high rejection rate and, hence, high costs. [Security deletion.]

The Centalign B internal grinder has been in production for the past 15 years. During this period, competitive machines have appeared from Italy and Switzerland and more recently from Japan. At the present time, the Seiko machine from Japan has been reported to be more accurate than the Bryant machine.

Some manufacturers of precision bearings have replaced the Bryant machine with Seiko machines due to the increased accuracy and higher production rates which can be achieved. Thus, at the time the Bryant grinders were sold, other probably equivalent grinders would have been available to the Soviet Union from other free world countries.

[Security deletion.]

Although direct association between the export of the Bryant grinding equipment to the Soviet Union and production of the MIRV'ed ICBM cannot be substantiated, it is nevertheless possible that the products of the exported Bryant grinders may now be used in the guidance equipment of the Soviet ballistic missiles, both land

and sea based. It is a certainty that the products of these grinders could and will be found in a wide variety of current and future ground, air, sea, and space military hardware that require precision guidance equipment, optical recording devices, as well as associated scientific test equipment.

Military and political objectives underlie Soviet development of strategic missile systems equipped with MIRV'ed payloads. At the present time, the Soviet Union has three operational MIRV'ed ICBM's and are testing MIRV's on an SLBM and an IRBM. They and their follow-ons when fully deployed, will enable the Soviets to satisfy more effectively longstanding requirements for a highly flexible, soft target threat to enemy military and military related facilities around the world. MIRV's also provide the Soviets with an increased probability of destroying hard targets, such as ICBM silos and hardened command and control sites. In addition, the MIRV's constitute a hedge against the possibility that the ABM Treaty, signed in 1972, will at some future time be abrogated.

On the political side, the positive image of Soviet capabilities vis-a-vis those of the United States is an important factor contributing to the increased freedom with which the Soviets can maneuver in carrying out foreign policy objectives. The development of MIRV'ed strategic missiles, regardless of their true capabilities, eliminated one of the asymmetries between the United States and U.S.S.R. strategic forces and contributed to the impression of U.S.-U.S.S.R. equivalency throughout the world.

#### SPEY ENGINE CASE

The Spey engine case—current assessment of the technical aspects of the Spey engine sale.

The fact that the People's Republic of China has yet to successfully design, develop, and produce even a single engine of native design clearly indicates a very limited capability. To satisfy their military and civil aircraft needs, the People's Republic of China has had to depend upon the import of Western engines and upon manufacturing copies of older Soviet military engines.

Although the People's Republic of China has been exposed for several years to the nonafterburning RB 163-25 Spey engine, which Rolls Royce has furnished to power the Chinese-owned Trident transports, to date they have not exhibited all the required technology needed to manufacture this engine. The People's Republic of China incentive to build this engine would have been great. Not only would it have fulfilled their Trident needs, but if a reasonably well-developed design technology had been in hand, the People's Republic of China could develop on their own, as did the British, a supersonic afterburning turbofan fighter engine from the civil Spey core. To make up for their obvious design and production deficiencies, the People's Republic of China has elected to buy "catch-up" technology from the British.

Probably the best available index of People's Republic of China aircraft engine technology is the Soviet Mig powerplant—the R 11F-300 series afterburning turbojet which the Chinese have had access to since 1964. This is the most modern engine being produced in China and is used for Fishbed—Mig-21—[security deletion].

The R 11F-300 is an excellent engine for short range interceptor application, but, its design is quite dated—design was initiated in the U.S.S.R. in the early 1950's. While the People's Republic of China apparently has the production technology to produce a satisfactory version of the R 11F-300, it is doubtful that the People's Republic of China has fully progressed to the level of design technology represented by this engine. The Soviets provided no assistance with this project.

Even if one were to take the optimistic view that current People's Republic of China technology is roughly equivalent to the Soviet R 11F-300 engine, it must be concluded that the Rolls Royce Spey agreement will advance People's Republic of China propulsion design technology by an estimated 5 to 6 years. The advancement in People's Republic of China engine production technology may be even greater than the design technology gains.

The People's Republic of China has no prior afterburning turbofan engine experience. [Security deletion.] Western experience has shown that the first generation afterburning turbofan development was a costly undertaking plagued with many problems. The Spey agreement should greatly diminish the agony of this step for the People's Republic of China.

The People's Republic of China will probably begin receiving Rolls Royce manufactured RB 168-25R's in 1978. Although the planned 50-engine delivery, which probably will spread out over a couple of years, would be more than sufficient to support the People's Republic of China development [security deletion]. The Spey afterburning turbofan engine is very attractive for this application, particularly because of its excellent specific fuel consumption under subsonic cruise conditions—approximately 25 percent better than current production People's Republic of China turbojets—which results in good combat range.

The sale of the 50 Spey engines and engine production resources has caused us to reexamine the future aircraft force levels in China. The present People's Republic of China fighter force projections have been revised upward, based on the availability of the afterburning version of the Spey. [Security deletion.]

New People's Republic of China Spey-equipped aircraft programs will not have a direct impact on U.S. security [security deletion].

The Spey engines will be used by the People's Republic of China fighters and the Trident transports. An area which could impact the United States would be the possible export by China of fighters to Third World countries where U.S. foreign diplomatic or economic interests may be affected.

However, the Chinese would not be in a position for exports until the mid-1980's and the possible areas cannot be judged at this time. The use of the Spey engine in a tactical fighter-bomber would provide a counter of the nearby Soviet threat and would lessen the chances of a successful conventional attack against China.

Mr. BINGHAM Thank you, Mr. Speaker.

Does Mr. Wright or Mr. Meyer care to add anything at this time from the State Department and the Department of Commerce?

Mr. MEYER. Not I.

Mr. WRIGHT. No.

## DIFFERENT STANDARDS OF EXPORT CONTROL

Mr. BINGHAM. Your very last sentence, Mr. Speaker, raises a question which I find a rather fascinating one.

It is clear, is it not, that we apply different standards to the control of exports to the People's Republic of China than we do to the Soviet Union, because of the difference in their own technology, but possibly also because of the difference in our relationships?

Mr. SPEAKER. I think this makes a lot of sense.

Mr. BINGHAM. Well, it might even be to our interest to increase the capacity of the People's Republic of China relative to the Soviet Union in certain respects; is that correct?

Mr. SPEAKER. I believe that a logical argument could be made in that direction, Mr. Chairman, if it adds to regional stability, that could be viewed by State in the broader context of U.S. foreign policy as a good thing.

**STATEMENT OF DR. MAURICE J. MOUNTAIN, OFFICE OF THE ASSISTANT SECRETARY FOR INTERNATIONAL SECURITY AFFAIRS, DEPARTMENT OF DEFENSE**

Mr. MOUNTAIN. Mr. Chairman, if I may interject, the policy that we are pursuing in this area is one of evenhandedness. We do not make a difference between the People's Republic of China and the Soviet Union. Whether one should be made is, perhaps, another question.

Mr. BINGHAM. Well, in the case of the Spey transaction, as I understand the statement, clearly the export of Spey engines to the Soviet Union would not have been of assistance to them from a technological point of view; is that correct?

Mr. MOUNTAIN. I am not sure that is correct.

Mr. BINGHAM. Because they are so much more advanced than the Chinese?

Mr. SPEAKER. The aeronautical industry is so far ahead of the Chinese—I think that is a fair statement—that the Spey engines would have been of little benefit to the Soviet Union.

Mr. BINGHAM. Would we under the present procedure, in fact, have licensed the export of Spey engines to the Soviet Union?

Mr. MOUNTAIN. No, sir, we would not, nor would we license them to the People's Republic of China, either.

Mr. SPEAKER. Neither one.

Mr. BINGHAM. Now, in this case, what happened?

Mr. MOUNTAIN. I think this is something the State Department is in position to answer, Mr. Chairman.

**STATEMENT OF ROBERT D. WRIGHT, DIRECTOR, OFFICE OF EAST-WEST TRADE, DEPARTMENT OF STATE**

Mr. WRIGHT. You are speaking here of the Spey case?

Mr. BINGHAM. Yes.

Mr. WRIGHT. Well, I will give you the history. I think this might be the best way to respond to that.

Mr. BINGHAM. Please.

[The ensuing statement was deleted by the Department of State on the grounds that its publication would place the U.S. Government in violation of the established COCOM rule of confidentiality respecting details of COCOM matters and would be damaging to our COCOM relationship.]

Mr. BINGHAM. Dr. Mountain, in relation to your statement that the policy is to treat the two equally, I don't know if you were aware of the fact that apparently yesterday on Meet the Press, our former Defense Secretary argued that we should not treat them equally and we should provide some form of military assistance to the People's Republic of China.

Mr. MOUNTAIN. I was aware of it, Mr. Chairman. I heard the broadcast and found it very interesting.

Mr. BINGHAM. That is a safe comment.

Mr. Biester.

#### QUALITY OF AMERICAN TECHNOLOGY

Mr. BIESTER. Thank you, Mr. Chairman.

I will ask a question which probably has no answer. I appreciate that even though I ask. But I would like to explore at least what would be apparent from the nature of the question.

Is there a distinction or are there some distinctions between the technologies of the Japanese and the Communist and American technology to such an extent that if the Soviets or the Chinese were to look into only Japanese or only Communist technology they would find themselves over a span of 10 or 20 years in an invidious position technologically speaking?

Mr. MOUNTAIN. That is one for Mr. Speaker.

Mr. SPEAKER. I guess, if I can make sure I understand the question—if they went elsewhere but to the United States for whatever they need, isn't that basically it?

Mr. BIESTER. If they had to go elsewhere.

Mr. SPEAKER. And we are talking about the Soviet Union?

Mr. BIESTER. The Soviet Union for the next 10 or 20 years.

Mr. MEYER. Over the broad range of technology?

Mr. BIESTER. Almost any aspect of it.

Mr. SPEAKER. I just think that across the board there are a number of areas where the Soviet Union is earnestly trying to catch up to the United States, and I think it unlikely that in some of the critical areas of military technology they are going to get it anywhere else in the world.

Mr. MOUNTAIN. Other than the United States.

Mr. BIESTER. That is my impression.

Mr. SPEAKER. Yes.

Mr. BIESTER. And I think not only in military technology but in other technologies as well.

Mr. SPEAKER. Yes.

Mr. BIESTER. Therefore, let me ask the corollary to that question: Is that perceived by the leadership community in the Soviet Union?

Mr. SPEAKER. Yes, sir, absolutely.

Mr. BIESTER. Is that also perceived by the leadership community in the People's Republic of China?

Mr. SPEAKER. Yes, I would say so.

[The ensuing discussion was deleted by the Department of State on the grounds that its publication would place the U.S. Government in violation of the established COCOM rule of confidentiality respecting details of COCOM matters and would be damaging to our COCOM relationship.]

#### EXCHANGE OF TECHNOLOGICALLY-ORIENTED GROUPS

Mr. BIESTER. What levels of technologically oriented people do we exchange with the People's Republic of China? That is a bad way to phrase the question.

We send ping pong teams and they send ballet dancers, operas and so forth, and we send basketball teams, diplomats, and so forth. I don't mean to lump diplomats with ping pong players and basketball players, let alone opera singers.

To what extent do we also send scientists back and forth and to what extent do we send scientists back and forth whose expertise might be perceived by the Soviet Union as of a military nature?

Mr. WRIGHT. I am afraid that I am not in a very good position to answer that in detail. We haven't proceeded as far in terms of exchanging with the People's Republic of China as we have with the Soviets in a range of fields of technology, but there have been some visits by what you might call technologically oriented groups. This has been true in the field of computers and in the field of laser technology, I think, and some other technologically advanced fields. These have not reached the point of there being a real ongoing substantive technological exchange agreement set up.

Mr. BIESTER. There have been some?

Mr. WRIGHT. There has been some of that from the beginning. Certainly, they are interested in it.

Mr. BIESTER. I will ask a foolish question: Are the Soviets aware of the extent of that?

Mr. WRIGHT. Oh, I think so, yes.

Mr. BIESTER. Thanks.

#### STATEMENT OF RAUER MEYER, DIRECTOR, OFFICE OF EXPORT ADMINISTRATION, BUREAU OF EAST-WEST TRADE, DEPARTMENT OF COMMERCE

Mr. MEYER. I might add, there is considerably more with the Soviets.

Mr. BIESTER. I understand that. I was teased with the notion of the usefulness, to a certain degree, of some marginally increased contact between the People's Republic of China and the community and our own in terms of technology transfer.

Mr. MOUNTAIN. I think perhaps the greater volume of this kind of traffic would be concerned with visiting teams who are in a purchasing mode looking at United States or Western equipment for that purpose, not so much for the scientific cultural type of exchange.

Mr. BIESTER. Very good. Well done. That is even better than I thought.

Mr. BINGHAM. Mr. Whalen.

## SOVIET METHOD OF PAYMENT FOR TECHNOLOGY

Mr. WHALEN. Thank you, Mr. Chairman.

Gentlemen, I would like to refer again to former Secretary Schlesinger's appearance yesterday on, I believe it was, "Meet the Press". He referred to the fact that the United States gives economic and military assistance to Russia and questioned that.

Now I would agree that we not give economic and military assistance to Russia if, in providing them with technology, they don't pay for it. This, I think, brings up a question that has not been addressed by our other witnesses. I think we proceeded from the assumption that we have always been paid for these items.

What was the method of payment, do you know, for the Bryant grinders? You indicated the price was \$6 million?

Mr. MEYER. I think it was cash.

Mr. WHALEN. Well, all right. I am sure the Bryant firm received a check someplace along the line for \$6 million. But, what did Russia give? Did they have dollars which they could transfer through the international banking system, or was it gold, or wheat?

Mr. KOVACH. Just dollars.

Mr. WHALEN. It was dollars.

Now, I don't want to go into a long history or discourse on international exchange, but is this true in other sales, to your knowledge, by U.S. firms?

Mr. KOVACH. Well, if I may answer that, while we had the Eximbank window open, so to speak, we did provide some credit. Some of that is being used. And banks, U.S. banks still continue to provide credit to the Soviet Union on a much smaller scale. By and large, purchases from the United States have been for cash.

Mr. WHALEN. For cash?

Mr. KOVACH. Yes.

Mr. WHALEN. What percentage would you say?

Mr. KOVACH. Well, if you took 1975 and used it as an example, I think it probably would have been 50-50. Prior to that, say back in 1973-74, it was probably more like 80 cash and 20 percent credit.

Mr. MEYER. There is an interest on the part of the Soviets to arrange deals whereby payment is in product. That is to say, they will buy the technology, the plant, to manufacture a product and pay part of the price with the product to be marketed by the United States—copper for example.

Mr. WHALEN. In other words, the product would be produced in the Soviet Union, part with American technology, and then the American firm would sell this; is that correct?

Mr. MEYER. It may be entirely with American technology and plant. The American firm can either market the product itself or can use a Swiss trader operating out of Switzerland, for example. They will sell it to the Swiss trader; he, in turn, will peddle somewhere and the American firm will get in effect dollars.

Mr. WHALEN. I think you can understand the point I am alluding to. You often hear some of our citizens say: "Well, we give the equipment to the Soviets on credit and some time down the line they are just

going to say, sorry, United States, we are not going to pay you." In effect, I guess at that time it becomes a grant.

So, what you are saying is that in most instances the sale of U.S. equipment-technology is on a hard dollar cash basis?

Mr. MEYER. I think it varies directly with the size of the transaction; \$6.5 million is not large in these terms. A \$200 million transaction is another case.

Mr. KOVACH. A large part of the equipment for the Kama River plant they are building there now was on credit—probably three-fourths of it.

Mr. WHALEN. Well, some could argue that is economic assistance even though it is not funneled through any Federal agency or bureau.

Mr. BIESTER. Is that concessional credit or trade?

Mr. KOVACH. The Soviets get prime rates, rates that the best borrower gets. Whether you want to call that concessional, I don't know. They are good at paying their bills.

Mr. WHALEN. That is based on their own credit experience?

Mr. KOVACH. Yes.

#### BRYANT GRINDER LICENSING PROCESS

Mr. WHALEN. Just a couple of questions on the Bryant case.

As I recall it, an earlier request was denied, is that correct, in the early 1960's?

Mr. MEYER. That is correct. As a matter of fact, an earlier request was licensed; then the license was revoked.

Mr. WHALEN. Had any shipments been made under that license?

Mr. MEYER. I believe not.

Mr. WHALEN. Why was it revoked after having been licensed?

Mr. MEYER. Putting it in the best possible light, I would say because sober second thoughts persuaded the Secretary of Commerce that the license should be revoked.

Mr. WHALEN. Did Congress have anything to do with that sober second thought?

Mr. MEYER. Well, let me put it this way. Preceding the Secretary's decision, there was some congressional interest.

Mr. WHALEN. How would you define that interest? What form did it take?

Mr. MEYER. There were hearings.

Mr. WHALEN. On this specific—

Mr. MEYER. There was certainly a dialog between the Department and the Secretary and Congress.

Mr. WHALEN. On the specifics?

Mr. MEYER. On the specific transaction.

Mr. BINGHAM. Would you recall, was that with representatives of the Banking and Currency Committee or the Armed Services Committee?

Mr. MEYER. I do not believe it was the Armed Services Committee. The Banking Committee had oversight of us at the time.

Mr. WHALEN. In the period between the revocation of the license and the time that a license ultimately was granted, what did the Soviets do? They apparently found some substitute product. Was that product equal to the Bryant grinder?

Mr. MEYER. At least one report brought to us by the company was that in the interval they had acquired a very sizable number of grinders. The figure may be in the neighborhood of 1,000.

Mr. WHALEN. How would they compare with the Bryant grinders?

Mr. MEYER. I can't answer that with any certainty whatever because we aren't sure they got 1,000. We aren't sure what they got. We do know that by 1972 and probably in advance of 1972 there were machines of comparable quality. How many years prior to 1972, I am really not in a position to say.

Mr. WHALEN. We, then, come to 1972, and what prompted the change in heart thus allowing the Bryant Co. to ship these grinders?

Mr. MEYER. We had the Bryant Co. being interested by the Soviets in 1971—they talked with us more or less informally in 1971, early 1972, they filed explicit applications in March 1972, and they asserted strongly throughout the entire consideration of their application that comparable products were available abroad. We verified that to our satisfaction in July when we sent one of our senior people to Switzerland to interview Voumard Co. officials. That senior staff man of ours saw the Voumard machines in a bearing plant working side-by-side with Bryant grinders, doing the same work, being used in effect as switch-over machines. They would switch one to the other producing the same quality bearing.

Mr. WHALEN. What was the actual date, then, of that decision to permit Bryant to go ahead?

Mr. MEYER. The decision was made and the licenses were issued August 28.

Mr. WHALEN. Of 1972?

Mr. MEYER. 1972.

Mr. MOUNTAIN. 1972, you are right.

Mr. WHALEN. What was the date of President Nixon's trip to Russia?

Mr. MEYER. A few months earlier.

Mr. WHALEN. Did that have anything to with it?

Mr. MEYER. No, sir.

Mr. WHALEN. To your knowledge, was there any discussion from the White House itself with respect to that or—

Mr. MEYER. No, sir, not to the best of my recollection.

Mr. WHALEN. It was your judgment, then, that had this been denied once again the Soviets could have bought grinders of equivalent quality and thus continued with the production of their MIRV's; is that correct?

Mr. MEYER. I am convinced they could have bought grinders of comparable quality.

Mr. WHALEN. I think we have to distinguish, don't we, between the MIRVed technology and the equipment designed to implement that technology? The Soviets, obviously, knew how to MIRV their missiles and the Bryant grinders didn't enhance that knowledge; it simply enabled them to do a better job of carrying out this technology.

Mr. MEYER. I think they knew very well that they needed high precision bearings for various components.

Mr. WHALEN. Why do you think the Soviets, knowing that there were three other possibilities, recognizing that they had been turned down before, insisted on purchasing the Bryant product rather than one of the other competing products?

Mr. MEYER. I think they persuaded themselves that there was something about the Bryant grinders that was a cut or two above the foreign competitors.

Mr. WHALEN. They were convinced but we weren't; is that it?

Mr. MEYER. Well, I think we were not persuaded that there was any difference or a difference of such significance to warrant a denial in the face of foreign availability of what we thought were essentially comparable machines.

#### FIRST REPORTED SOVIET MIRV FLIGHTS

Mr. WHALEN. One final question, Mr. Chairman, that might pin this down. I ask this of our intelligence witnesses.

Can you pinpoint the time as to when the MIRV was effectuated vis-a-vis the delivery of the Bryant product? Is there a correlation?

Mr. SPEAKER. In my statement, Mr. Whalen, we have entered the dates of when we saw the first MIRV flight, which I believe was [security deletion] 1973, and so that was [security deletion] prior to the approval of the export of the production capability represented by 168 machines.

Mr. WHALEN. You saw them fly but, obviously, they don't fly without going into some long-range production, and I just wondered when did they begin producing these vehicles that you saw fly at that time? Was this before or after?

Mr. SPEAKER. It had to be, we think, 2 to 3 years prior to the first flight when they would have to start with their developmental models for laboratory testing and performance verification. So they were well into a developmental program on their new guidance systems for several years prior to that flight.

Mr. WHALEN. Well, now let's pin it down again. You saw them fly when? [Security deletion.]

Mr. SPEAKER. [Security deletion] 1973.

Mr. WHALEN. The Bryant sale was approved August 1972. When were the grinders delivered? Does anyone know?

Mr. MEYER. I don't have a date on that. I can get it. But it would have been some time after 1973, by the end of the year. I think it was probably over a period of months.

Mr. SPEAKER. [Security deletion.]

Mr. WHALEN. Yes.

Mr. SPEAKER. So the guidance system hardware was essentially begun at least as early as 1970; that is, their design of the new systems. [Security deletion.]

Mr. WHALEN. Let me then just get to the charge that was made by Washington Post reporter Dan Morgan. I am sure you are familiar with the article that appeared February 26 of this year, headlined "U.S. Reportedly Sold Soviets Means to Make MIRV Part"<sup>1</sup> and suggestions there that it was as a result of the Bryant grinders that the Soviets were able to complete their MIRV process.

Let me continue: "Retired General Daniel Graham, former head of the Defense Intelligence Agency, said the Soviets"—I am quoting now General Graham in this article—"couldn't have gone into production' of the multiple warhead weapon called MIRV without the machines."

<sup>1</sup> The Washington Post article referred to appears on p. 25.

Mr. KOVACH. That is inaccurate.

Mr. WHALEN. That is inaccurate?

Mr. SPEAKER. I think that the point may be stretched as reported in the media. I think a point to observe, though, is that to produce the quantities would require full capacity of fairly large national production capability just to support, say, the SS-19 program [security deletion]. And, if you look at the probable number of precision bearings that have to go into each missile guidance system and make a reasonable judgment as to what the rejection rate is of your best bearings, it is something like 9 out of 10 bearings sets have to be rejected because of the difficulty of producing the really good ones.

That is a process we use in this country. We produce 10 bearings and then pick the best ones and it is about one-tenth of the gross production. So it is a very expensive process.

So, not only is it a question of the quality of the technology but it is a question of the production quantity which went to them.

Mr. BINGHAM. If the gentleman would yield.

Mr. WHALEN. I yield the balance of my time.

Mr. BINGHAM. I think for the record we might have incorporated without objection the letter, a copy of which I have, from Bryant Grinder Corp., to Mr. James Gray, executive vice president of the National Machine Tool Builders' Association, dated March 31, 1976, in which it states:

While the Bryant grinders were ordered in 1972, they were not delivered until 1973 and 1974. It would be my guess that the Soviets would not have been able to put the Bryant grinders into production until late 1973 or early 1974.

[The letter referred to follows:]

BRYANT GRINDER CORP.,  
March 3, 1976.

Mr. JAMES A. GRAY,  
*Executive Vice President, National Machine Tool Builders' Association,*  
*McLean, Va.*

DEAR JIM: Enclosed are copies of the correspondence to Mr. Rauer Meyer and Mr. Aaron Tollin written in late 1971 and early 1972. I believe you received copies of these letters at that particular time.

These letters point out the following basic information:

1. According to Stankoimport there were approximately 1000 machines shipped into the U.S.S.R. during the period between 1961 and 1971 that were competitive with the Bryant Centalign "B" Internal Grinder.

2. Machines similar to the Bryant Model "B" Internal Grinder, and in some cases equipped with copies of specific Bryant features, are available from: Italy—Minganti; Germany—Overbeck; Switzerland—Voumard; and Japan—Seiko Seiki.

3. Precision miniature bearings were being shipped into the Soviet Union from bearing manufacturers in Japan and Switzerland and possibly Italy and France.

It would be of interest to obtain more information regarding the guidance mechanism for the MIRV missile and as to whether the Soviets were actually not able to produce the guidance mechanism until after they received the Centalign "B" machines. It would appear to me that the Soviets were able to purchase the bearings independently of the manufacturing capability long before they had the Bryant "B" machines. It would also seem that with the machines that they had purchased from our competitors they were capable of producing the necessary precision miniature ball bearings prior to receiving the Bryant Model "B" grinders.

It would also be of interest to know when the Russians had the MIRV missiles available. I have an idea that the missiles were available prior to the time that the Bryant Model "B" Grinders were in production in the Soviet Union.

While the Bryant Grinders were ordered in 1972 they were not delivered until 1973 and 1974. It would be my guess that the Soviets would not have been able

to put the Bryant Grinders into production until late 1973 or early 1974. The MIRV missiles would had to have been assembled after that time in order to use bearings made on the Bryant Grinders.

To further fortify the competitive equipment information there was an article in the Metalworking News sometime in mid-1974 pointing out that the M.P.B. Corporation, a miniature precision bearing manufacturing company, were using a Seiko Seiki grinder from Japan for work normally done on a Bryant Model "B" Grinder.

I hope this information is of value to you. We would appreciate being kept posted on what is going on in Washington. We will make every attempt to have representation at the meeting on the 24th of March that you mentioned to me today.

Very truly yours,

JAMES V. HALVORSEN,  
*Vice President and General Manager.*

#### INTERAGENCY COOPERATION

Mr. BINGHAM. Mr. Kovach, I get the impression from your statement that the role of CIA is relatively secondary in this process relative to the role of DIA; is that correct?

Mr. KOVACH. I wouldn't say so, principally because I think that we do work together. Are you basing this on the longer statement that Dr. Speaker gave or—

Mr. BINGHAM. Well, no, on your statement that you are not necessarily involved unless somebody asks you to be involved.

Mr. KOVACH. That is correct, we do not. Unless something comes up that hits us in the face; we discuss these things with DIA and with other members of the intelligence community. We will bring it to the attention of the Committee, but this is a very rare thing, and normally in any kind of a case, it is almost automatic that the request will be coming from the interagency committee.

On the question of diversions, I think we take more initiative in that area.

Mr. MOUNTAIN. I wonder if I might add a little bit to the information you have on this. The CIA is a member of the Interagency Operating Committee which is chaired by Commerce and on which Defense and State and others sit.

This Interagency Committee handles the controversial and difficult cases, about 500 a year. In almost every one of these an intelligence input is required. Sometimes it requires going back to the CIA member and asking him if he can provide additional information. Those requests sometimes come from the Defense member, sometimes from State, sometimes from others, but authority for tasking CIA falls to the Chairman from the Department of Commerce.

Now, in the Department of Defense, with regard to the role that DIA plays, we consult with them on every item that is in the list review. That is the triennial exercise where the whole COCCOM embargo list is reviewed. There is not one item we assess in Defense on which we do not ask DIA to provide us their judgment. However, we do not consult with them on every individual export application case or even on most of the cases that come our way for the simple reason that we have a stable of something like 125 technical experts spread throughout the Department of Defense whom we have identified and used over the course of time to give us technical advice on different types of equipment.

There are something like 120 categories in the COCOM embargo list. In some cases, we know the expert is in DIA. In other cases, we know the expert is in DDR&E, or elsewhere.

For example, there is a man in the DDR&E who is outstanding, recognized by Government and industry generally as the best jet engine man in the country. So when we have a jet engine problem, we go to him and he in turn is in touch with the DIA people.

On the Bryant grinders, we did not consult with DIA, but we consulted instead with the technical people who are machine tool experts in the Office of Assistant Secretary of Defense—Installations and Logistics, and we do that today.

Now if we want information on computers, there are good people in DIA, but Mr. Kovach in CIA has had in his organization probably the top man around who knows Soviet computers forwards and backwards, and so we go directly to that man.

Formally, and following the organization chart, we would put all of our intelligence requests through DIA, but knowing that in turn they would be going to some of the people we already tap it seems a useless exercise in paperwork and we have got enough problems trying to move these cases quickly, or at least without the delays that you have heard businessmen complain about here, that we try every way we can to get to the man who can give us the answer. To some extent, I think this is why in the Spey engine business we did not consult with DIA nor did we on the Bryant grinders.

On the list review, this is a formal exercise that takes several months—9 months, actually—going through several of these on every one of these things.

Mr. MEYER. What Dr. Mountain has said to a degree understates CIA's contribution because not only do we consult CIA when a case gets involved in the formal interagency consultation through the Committee, but there is a day-to-day informal type of consultation. Who is this consignee? That particular Soviet facility, what does it do? Is it militarily oriented, civilian oriented? So there is a very recurring informal and formal consultation type of input by CIA.

Mr. BINGHAM. Mr. Speaker, reading over your statement again on the Bryant grinder, I am a little puzzled as to just what your conclusion was.

Were you in favor of the grant of the license for the Bryant grinder?

Mr. SPEAKER. We didn't participate in the case at the time. That is why I didn't address the first two questions in your letter. DIA did not participate.

Mr. BINGHAM. Your analysis suggests almost a negative conclusion. You seem to me to suggest that maybe this was the wrong decision. Did you intend that?

Mr. SPEAKER. It is our belief that these grinders are capable of a large amount of production, a large portion of which is finding its way into military hardware and military-related hardware.

Mr. BINGHAM. In light of that, do you want to comment further, Dr. Mountain?

Mr. MOUNTAIN. Yes, I would like to.

There are two things that we are required to do under the law, and that is to restrict exports to the Communist world which will significantly contribute to their strategic capabilities or to their military capabilities; and, at the same time, we are to take into account foreign

availability and show cause why we should refuse to approve a license or recommend the approval of a license because, in Defense we only recommend to Commerce—they are the functioning agency to grant the license—show cause, in effect, why we should recommend against approval of a license where there is foreign availability.

#### COCOM

Now, in the Bryant grinders case, for many years we were persuaded there was not foreign availability. Two things happened in 1972. One, we had tried to get our COCOM allies to embargo this type of equipment, and between the time that this case came in and the time that it was decided favorably we failed to get this COCOM agreement, so our allies were not going to embargo it. They had not had this equipment under embargo at all. So this is where the significance of the Italian and Japanese and German availability came in.

There was also the Swiss case, and—

Mr. BINGHAM. Would you develop that a little further? That is very interesting. This reference to embargo, was that something that was brought up in COCOM?

Mr. MOUNTAIN. Yes, we made a formal proposal in COCOM to our allies that this kind of machine was of sufficient strategic usefulness, for the very reasons that Mr. Speaker has mentioned—that it represented an advance for the Soviets or for the Chinese, for the Communist world, generally, and ought to be under embargo, meaning it be placed under control.

It would not necessarily mean you would deny a shipment of these machines. It would only mean you would have to restrict their export to the point where you would examine each case on its merit to make sure it was only going to a peaceful end use, which is the basis for making exceptions.

#### FOREIGN AVAILABILITY

We failed to achieve that goal and, in the light of that and in the light of the testimony of our colleague from the Department of Commerce that the experts who went over to Switzerland and saw Swiss machines in operation and talked to people who were using them and found that the users saw no difference between them and the U.S. machines, we had foreign availability. So we had the question then of what will we do if we deny these cases, this Bryant grinder? And the judgment was made that the principal effect would be to deny a \$6.5 million sale to a U.S. firm.

Mr. MEYER. Might I add one additional note?

Mr. BINGHAM. Yes.

Mr. MEYER. The licensing decision was made, the license was issued August 28, the Export Administration Act was extended in revised form and enacted August 29. That was the revision that put quite a bit of emphasis on foreign availability as a licensing factor.

Now we knew at the time the decision was made that Congress was coming out this way; that is to say, they were going to write into the act the emphasis on foreign availability.

Mr. BINGHAM. We make foreign availability an important consideration with reference to products that are intended for peaceful purposes. We don't make that distinction with respect to military hardware, right?

**Mr. MOUNTAIN.** By definition.

**Mr. BINGHAM.** By definition we don't?

**Mr. MOUNTAIN.** That is right.

**Mr. BINGHAM.** But we here have got a mixed case. We have a machine which has substantial capability as a manufacturer of military hardware.

Under the law, as it now stands, that type of case is subject to the consideration of foreign availability; is that right?

**Mr. MEYER.** That is correct. The law does state that the President can determine there are overriding national security considerations that offset foreign availability; but it is clear in the statute, I think, that the burden of proof is on those who would assert that those overriding circumstances exist.

**Mr. BINGHAM.** If you would think out loud with me for a moment, what is the difference, really, between the export of military hardware itself and of machinery with which to manufacture it, in terms of our national interest in controlling exports to the Soviet Union?

**Mr. MEYER.** I think in the case of the Bryant grinders it is noteworthy that precision subminiature bearings are produced by sending the material through a whole chain, a whole series of workings. The Bryant grinder was one piece of equipment involved in the production of these bearings. The quality of the bearings is a function not only of the equipment employed, but it is a function of the raw material. The quality of the metal that goes into the bearing itself is a function of the operator's skills. So licensing the grinders was not tantamount to giving them a complete piece of production equipment that in effect would turn out a piece of military hardware.

**Mr. BINGHAM.** Well, as you know, our focus here must necessarily be on the legislative aspect of all of this, and what changes, if any, should be made in the law. I must say I am a little puzzled by this question of foreign availability, and the logic of the distinction that is made in existing law about the applicability of the foreign availability criterion to defense production equipment but not to the defense end item.

**Mr. MOUNTAIN.** Mr. Chairman, the items that are on the munitions list are by definition military items along with the technical data related thereto. When we come to the items on the Commodity Control List, which is what we are discussing here, under Commerce's jurisdiction, these items by definition have both civil and military uses. It is thus a slightly different story and this is why we go so much into the end use and end user problem as to whether we are going to release the item.

If we know for certain that it is going to be diverted, that is one story. Again, when you come to the foreign availability, here is an item that is not embargoed by any of our allies; only the United States through its export controls was considering this.

One further thing; prior to the development of this concept of foreign availability in the law—I believe I have got my sequence right—we were instructed to cut our list down. The United States had a large unilateral list that we held on ourselves and we were instructed to cut it down as far as possible to the COCOM level.

**Mr. BINGHAM.** This case was not a COCOM case?

**Mr. MOUNTAIN.** No, sir.

Mr. BINGHAM. Mr. Wright, could you tell us why the Japanese and French refused to embargo this type of equipment?

Mr. WRIGHT. You referred to the attempt to get this embargoed by COCOM?

Mr. BINGHAM. Yes.

Mr. WRIGHT. The reason given was that they were nonmilitary items that were produced—I should say that the bearings produced by this kind of machinery would go into a range of nonmilitary equipment. The criterion that we follow in COCOM to justify an additional item to the list requires, in the case of machinery that is used in the production of potential military equipment, that it be shown to be capable of producing primarily military equipment; that is, in the sense of more than well over 50 percent of its output being directly military. So that you obviously get into an area of argument and disagreement on the part of the different countries as to where you draw this line of what is primarily military in its applicability, and that was essentially the character of the argument.

The situation was that the item was covered, but what was at issue was reducing the cutoff that would have had the effect of placing this particular equipment under control.

Mr. BINGHAM. Would you be able to say whether there was any congressional input in the decision to grant the Bryant license?

Mr. MOUNTAIN. There was none in the Department of Defense that I am aware of, Mr. Chairman. This was strictly on the basis that I have described to you, the foreign availability question.

Mr. MEYER. There may have been, Mr. Chairman—I say may—an inquiry or two. I believe the Bryant Co. did communicate with one or two, perhaps a few more Congressmen, and we may indeed have heard from them. But this is not unusual.

Mr. BINGHAM. I am sure it is not.

Are you prepared to say there was no input from the Congressional Oversight Committee?

Mr. MEYER. I think that is correct. And I would certainly say there was nothing, to the best of my recollection, that resembled congressional pressure of any sort.

Mr. BINGHAM. Well, gentlemen, thank you very much. Unless there is anything anyone wants to add, I appreciate your giving us this time and it has been a very interesting session.

[Whereupon, at 4 p.m., the subcommittee adjourned, subject to the call of the Chair.]



## APPENDIX

### LETTER FROM HON. JONATHAN B. BINGHAM TO HON. GEORGE BUSH REQUESTING TESTIMONY FROM THE CENTRAL INTELLIGENCE AGENCY

CONGRESS OF THE UNITED STATES,  
COMMITTEE ON INTERNATIONAL RELATIONS,  
HOUSE OF REPRESENTATIVES,  
Washington, D.C., March 26, 1976.

Hon. GEORGE BUSH,  
*Director,*  
*Central Intelligence Agency,*  
*Washington, D.C.*

DEAR MR. BUSH: The Subcommittee on International Trade and Commerce will hold a hearing in the near future on the role of the intelligence community in the process of export licensing of advanced technology. This hearing is part of a series of hearings the Subcommittee is conducting as a preface to anticipated action later in the year by the full International Relations Committee on the proposed extension of the Export Administration Act.

The Subcommittee hereby requests the appearance of a representative of the Central Intelligence Agency to testify at this hearing. The Subcommittee plans to go immediately into executive session in order to permit a full discussion of the matters at hand.

In addition to a general review of the role of the intelligence community in export licensing decisions where advanced technology is concerned, the Subcommittee wishes to focus and receive detailed testimony on two specific cases of the sale of advanced technology to Communist nations. These cases are: (1) the export in 1972 of machine tools by the Bryant Grinder Corporation (Springfield, Vt., to the Soviet Union which are alleged to have been instrumental in enabling the Soviets to mass produce precision ball bearings for use in the guidance system of MIRV's; and (2) the agreement in 1975 between Rolls Royce Ltd. and the People's Republic of China regarding sale of supersonic military Spey engines and production technology.

Witnesses are requested to be prepared to discuss and document their participation in these two specific cases, including information on the following questions: (1) what was your agency's assessment of the proposed sales(s) at the time they were considered and approved by the United States, (2) what were your recommendations and role in U.S. government deliberations on these export proposals, and (3) what is your current assessment of the impact of these sales on the national security of the United States?

The Subcommittee plans to schedule and conduct this hearing during the week of April 5, 1976. Your prompt designation of a witness will facilitate scheduling. The Subcommittee staff may be reached to discuss this and other details at 225-3246 (Congressional Hotel Annex, Room 707).

The Subcommittee looks forward to hearing from your agency on this matter.

Sincerely,

JONATHAN B. BINGHAM,  
*Chairman, Subcommittee on*  
*International Trade and Commerce.*

LETTER FROM HON. JONATHAN B. BINGHAM TO GENERAL EUGENE  
TIGHE REQUESTING TESTIMONY FROM THE DEFENSE INTELLIGENCE  
AGENCY

CONGRESS OF THE UNITED STATES,  
COMMITTEE ON INTERNATIONAL RELATIONS,  
HOUSE OF REPRESENTATIVES,  
Washington, D.C., March 26, 1976.

Gen. EUGENE TIGHE,  
*Director, Defense Intelligence Agency, Department of Defense, The Pentagon, Wash-  
ington, D.C.*

DEAR GENERAL TIGHE: The Subcommittee on International Trade and Com-  
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Witnesses are requested to be prepared to discuss and document their partici-  
pation in these two specific cases, including information on the following questions:  
(1) what was your agency's assessment of the proposed sale(s) at the time they  
were considered and approved by the United States, (2) what were your recom-  
mendations and role in U.S. government deliberations on these export proposals,  
and (3) what is your current assessment of the impact of these sales on the na-  
tional security of the United States?

The Subcommittee plans to schedule and conduct this hearing during the week  
of April 5, 1976. Your prompt designation of a witness will facilitate scheduling.  
The Subcommittee staff may be reached to discuss this and other details at 225-  
3246 (Congressional Hotel Annex, Room 707).

The Subcommittee looks forward to hearing from your agency on this matter.

Sincerely,

JONATHAN B. BINGHAM,  
*Chairman, Subcommittee on  
International Trade and Commerce.*

WASHINGTON POST ARTICLE ENTITLED "U.S. REPORTEDLY SOLD SOVIETS MEANS TO MAKE MIRV PART," FEBRUARY 26, 1976

(By Dan Morgan)

Since 1972, the United States has sold the Soviet Union 164 precision machines that can produce the miniature ball bearings used in guidance systems of multiple warhead missiles, a former top intelligence official charged yesterday.

Retired Gen. Daniel Graham, former head of the Defense Intelligence Agency, said the Soviets "couldn't have gone into production" of the multiple warhead weapon, called MIRV, without the machines.

A Pentagon spokesman said the Defense Department had not opposed the sale, which was authorized in 1972 after an investigation of the ball bearing technology sold by other western countries. However, the spokesman said the Pentagon had no comment on the question of whether the bearings were subsequently used in Soviet MIRV's.

Jim Halverson, general manager of Bryant Chucking Grinding Co. of Springfield, Vt., confirmed yesterday that the firm had sold the machines to the Soviets "after a lot of discussion" in Washington.

"We don't know the end use of the product of this equipment," he said, adding that tiny ball bearings are components of modern household appliances and many kinds of precision instruments.

In announcing the first Soviet purchase of bearings in the United States in 1972, Machine Tool Industry Minister Anatoly I. Kostomov said, "We are using more and more instruments of all kinds and our need for bearings is very great."

Ball bearings have been mentioned time to time as part of the continuing controversy over detente and trade with Soviet Union.

Critics of detente say that Russia is using the increased U.S. trade mainly to plug strategic gaps in its military and industrial technology.

However, other analysts of the Soviet system say that the Russians are skilled at copying Western technology even when they can't purchase it. They add that it is difficult to safeguard industrial processes, because many American firms operate European or Japanese manufacturing plants where Communist workers are employed.

Although the United States relaxed restrictions on trade with the Kremlin after 1972, it still embargoes 68 items that this country's NATO allies and Japan allow to be exported to the Communist World.

Graham's remarks on the ball bearing sales came at a Capitol Hill breakfast, hosted by several members of Congress, in honor of a new book by Miles M. Costick, "The Economics of Detente."

Graham noted that Costick's book contained a lengthy reference to the ball bearing case. He claimed the Pentagon had objected to the sale and "should have been successful."

The equipment in question is the Bryant company's Centalign B grinding machines, which are so sophisticated they can manufacture miniature ball bearings to tolerances of a 25-millionth of an inch. Costick said that a large part of bearing output from Centalign machines is for military use.

"Until the Soviets were able to obtain Centalign B machines, they were unable to produce the guidance missile essential for MIRVing of their missiles," Costick wrote.

MIRVs—multiple independently targetable re-entry vehicles—have posed a major new problem for Soviet and American strategic arms negotiators. At Vladivostok in November, 1974, each of the two countries agreed to limit their strategic arsenals to 1,320 multiple warhead rockets.

In 1960, the Bryant company sought a license to export machines to Russia but was turned down after a lengthy internal debate in Washington.

A Pentagon spokesman said that a Commerce Department team learned in 1972 that Switzerland and Italy possessed similar ball bearing technology and the Bryant company's renewed application was approved because denying it "would only have prevented a U.S. firm from selling equipment already available from competitors abroad."

**BUSINESS CHINA ARTICLE ENTITLED, "ROLLS ROYCE DEAL: IT'S  
POLITICAL AND MILITARY MEANING", DATED FEBRUARY 6, 1976**

Executives responsible for strategic planning of business with China should be aware that the recent Rolls Royce (1971) Ltd. deal with Peking has political and military overtones which far transcend those of any ordinary commercial transaction. The agreements will bring RR some £80 million (£:USS2) in cash, with an estimated extra fallout of £20 million to UK machine tool and instrument manufacturers, but their real significance lies in the fact that they involve know-how and supplies of the most military nature yet sold to China by any Western nation. Moreover, they were concluded without the UK Government (which holds controlling interest in RR) going through normal NATO procedures for vetting such contracts with communist countries.

The agreements were signed in Peking by Sir Kenneth Keith, Chairman of RR, and Tsui Chun, Managing Director of China National Technical Import Corp. There were three separate types of contracts: 1) for supply of supersonic military Spey engines; 2) a license for China to manufacture these engines; and 3) for RR to supply know-how and facilities for engine testing and maintenance in China.

China has been operating Trident airliners with Spey engines since 1970, but the supersonic military version of the same engine would—in the words of one expert—"tear the main frame apart" if installed in a civilian aircraft. The standard military Spey has a dry take-off thrust of up to 15,000-lb. (6,810 kp) and powers the HS Buccaneer strike aircraft, the HS Nimrod maritime reconnaissance aircraft, and the McDonnell Phantom II strike fighters of the UK navy and air force. The supersonic version, with reheat, which will be supplied to China has a 20,500-lb. (9,300 kp) thrust and is of the kind used in Vought A-7 Corsair II close-support aircraft operated by the U.S. Navy and Air Force. These specifications are well above those of the civilian Speys used in the Trident, the BAC 111, and the Fokker F-23 airliners.

Probably the most significant agreements are those allowing China to manufacture these engines under license. This is the first time that RR has permitted the foreign manufacture of its military engines on this scale. Previously when foreign manufacture was allowed, there was a limit to the number of engines. There is no indication of any limit to the number China may build. The deal will thus considerably enhance China's ability to build modern jet engines and so enable it to end its previous reliance on Russian-designed military aero engines.

Under the third part of the deal, UK engineers will work in China for at least five years to help set up a Spey production plant, which BA believes will be located near Sian. Some 200 Chinese engineers will go to the UK for training.

The military Spey engine was first put into service in the Buccaneer in 1963, but the later supersonic Spey is the most advanced RR aero engine currently in widespread use by Western forces. The UK submitted the outline of the RR deal to COCOM, the committee set up by NATO and Japan to vet sales of strategic goods to communist countries, in 1973. When it seemed likely that some COCOM members would not approve the deal, the UK withdrew the application and embarked on a series of bilateral discussions with the U.S. and some other Western governments.

It is obvious that the RR deal has gone through without openly agreed approval by the Western nations as a tacit to help China strengthen its air power vis-a-vis that of the U.S.S.R. While the supersonic Spey will not greatly increase the long-range strike power of the PRC's air force, it will certainly strengthen China's cover of the Sino-Soviet border areas.

As Sir Kenneth has pointed out, the agreements may ensure RR a position in the development of China's aviation up to the turn of the century.

One perceptive commentator has also seen significance for the security of Hong Kong in the deals. If the UK is supplying engines for China's military aircraft for the next two decades or so, it is hardly likely that China—with Soviet troops massed on its land frontiers—would risk offending Britain by demanding the return of Hong Kong.

Negotiations between China and RR started in 1972 when Sir Kenneth made his first visit to Peking. It is alleged that Rumanian sources first tipped RR that China would welcome such a visit. For the past two years there have been RR teams of technical experts and negotiators constantly in Peking and never numbering less than six. In the forefront of the negotiations was RR's previously retired Technical Director, Sir Stanley Hooper. It is suggested that the mutual high regard between Sir Stanley and the Chinese officials with whom he dealt was a major factor in the deal going through. He was made an honorary professor of Peking University and today displays his name in Chinese characters on his office door at the RR center at Derby.

The contracts provide for payment in sterling, although RR would have preferred dollars.

Naturally, little is known about the numbers of China's military aircraft or its capacity to manufacture these planes. One 1975 estimate suggested that China had 3,800 combat aircraft and about 100 short-to-medium-range ballistic missiles. Its manufacturing plants were set up with U.S.S.R. assistance in distant days when the two countries were on friendly terms, and there is evidence that some plants manufacture civilian aircraft as well as the MICs and other tactical aircraft needed for China's defense.

