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TECHNICAL TASK GROUP REPORT

DOC Exemption Letter In EUR File

Meeting Held: March 1, 1965, at 1201 E St., N. W.

Agencies Represented: Commerce, Defense, CIA, State, FCC.

Part A: RCA Color Television System

Problem: Study of all equipment (except tape recorders and tape which are to be handled separately) and technical data involved in the RCA color TV system. This should include:

1. Identification of all equipment required in installing and maintaining a complete color TV system according to NISG standards and an evaluation of the technology contained in such equipment.
2. Identification of problem areas in terms of both multilateral and unilateral controls and (a) analysis of how these problems can or should be handled if case is approved, and/or (b) rationale leading to objections in these identified areas.

Discussion: Apart from video tape recorders, which are discussed in Part B, the Task Group determined that the following items should be considered as part of the color television package that Soviet bloc countries may be expected to seek to purchase from the United States or other Western countries:

1. Color TV Cameras
2. TV Terminal Equipment
3. Test Equipment
4. TV Camera Tubes
5. Color Picture Tubes
6. TV Picture Tube-Making Machinery
7. TV Transmitters

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Excluded from automatic downgrading and declassification.

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Although items 6 and 7 were not mentioned in RCA's letter of February 19, 1965 (attachment I), it would appear appropriate to consider them as part of the complex. It is further considered probable that the Bloc will require technical data and assistance in establishing its own production of most if not all of these items.

1. Color TV Cameras

Color TV cameras are not rated either internationally or unilaterally by the United States. They require a validated export license to Soviet bloc countries, but may be exported to Poland and Rumania under general license G-DEST. Although Japan produces color TV cameras and a number of other countries, including the Soviet Union, have developed prototypes, the United States unquestionably is advanced over the rest of the world in this field. However, it is not considered that the sale of TV color cameras to the Bloc and the transfer of technical data for their manufacture would have an adverse effect on security.

Auxiliary studio apparatus listed by RCA includes a Synchronizing Generator to provide all of the essential synchronizing pulses; Color Monitors to permit viewing of the program in the studio; Universal Multiplexers designed to permit one or two vidicon cameras to handle signals from two film projectors and two still projection equipments for maximum flexibility in film reproduction; Professional Slide Projector to provide means of projecting standard slide transparencies into monochrome or color vidicon film cameras; and a Light Control Unit, designed to provide a means of varying the projection light intensity from color and monochrome film or slide projectors. None of this auxiliary equipment has a strategic rating and can be exported to Poland and Rumania under general license. It is not considered to meet any of the strategic criteria.

2. TV Terminal Equipment

RCA has included the following items in this category: Custom Television Equipment, comprising specially designed master control consoles for controlling television programs; Video Switching Equipment to permit selection between video signals from any of a number of picture sources; and a Video

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Distribution Amplifier designed to feed a video signal or color subcarrier signal to up to four lines.

This equipment can be exported to Poland and Rumania under general license, but requires a validated export license for the Soviet bloc. It carries no strategic rating and is not considered to meet any of the strategic criteria.

3. Test Equipment

RCA has submitted brochures on several pieces of test equipment that might be required by the Soviet bloc, but points out that it is questionable whether the U.S. will be asked to supply such test equipment, since it is readily available from a number of countries and is not under international control. Most of the items are specially designed for television use, such as the Color Bar Generator, the Vectorscope, the Linearity Checker, and the Calibration Pulse Generator. Although all radio and television testing instruments are rated MESL 1529 and were considered in 1958 to meet criteria a and c, it is not considered that these criteria apply in the present instance. Because of their limited application, it is unlikely that the instruments would be diverted to any other use. In addition, two cathode ray oscilloscopes are proposed as possible requirements in the system. Both are specially designed for television use, and neither is rated internationally, but are covered by MESL 1584 and are under presumption for denial to the Soviet bloc.

It appears probable that any essential test equipment could be supplied with color television apparatus without violating COCOM agreements. Furthermore, it is unlikely that any security risk would be incurred in supplying such equipment or technical data for its manufacture. However, a problem may arise if the Bloc should attempt to obtain very advanced or multipurpose test equipment.

4. TV Camera Tubes

Both image orthicons and vidicon tubes are used in color television cameras. The types needed for black and white cameras are the same as those needed for color. They are not under international control, being specifically exempted from the IL definition. Non-ruggedized vidicon tubes are under U.S. control, however, and are under a presumption for denial to the Soviet bloc.

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The Soviet bloc is believed to lag the West in the production of high quality camera tubes. The technology needed to produce standard commercial television camera tubes is not far different from the technology required to produce camera tubes for other purposes, some of them of strategic importance. It is possible, therefore, that the level of Soviet ability in the field of image orthicon and vidicon production would be materially advanced if they were given technical assistance in producing TV camera tubes. However, this technology is not uniquely held by the United States and could be supplied by another Western country or Japan.

5. Color Picture Tubes

Color picture tubes are not under international control, but are covered by U.S. MESL 1541:

"Cathode ray tubes with three or more guns."

They are under a presumption for denial to the Soviet Bloc.

This coverage would appear to be an accident of definition, since no strategic application is known for the conventional color mask picture tube. Accordingly, it is not considered that the approval of color picture tubes to the Bloc would represent a security risk.

Color picture tubes are also made in Japan and Canada, but the technical data for their production is believed to be held by the United States. There would appear to be no reason not to supply such data to the Soviet bloc.

6. TV Picture Tube-Making Machinery

RCA officials have indicated in discussions that the economics of television are such that if the Soviet Union intends to adopt color television on a broad basis, it will have to produce its own color picture tubes and, in effect, the United States must be ready to set the Soviets up in the picture tube-making business. This will entail not only technical data but, in all probability, specialized tube-making machinery.

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IL 1355(b) covers machinery, equipment and test gear specially designed for the automatic or semi-automatic assembly of electronic tubes. The task group suggested that picture tube-making machinery may be sufficiently specialized so that the CoCom definition could be modified to exclude it without substantial security loss. CoCom concurrence would, of course, be needed for this change. In any case, the matter would require further study to determine if such machinery is in fact different from the machinery used in the production of strategic tubes.

7. TV Transmitters

Television transmitters are not under international control, and types suitable for color television could be supplied by a number of Western countries. They are covered by U.S. MESL 1517 and are under a presumption for denial to the Soviet Bloc. However, it is not considered that denial by the United States would preclude the Soviet Union from obtaining such transmitters.

SUMMARY

The only possible problem areas appear to be test equipment, depending on what instruments are involved; technical data for the production of TV camera tubes; and machinery for making TV picture tubes.

PART B: Tape Recorders and Tape Included in RCA Color Television System

Problem: Update previous task group report on tape recorders and tape (including technical data) involved in the RCA color TV NTSC system. This should include:

1. The extent to which technically one can differentiate between video tape recorders and tape and other types covered on the I/L. How would approval of this case affect balance of the definition?

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2. Exploration of the profit aspect such as the amount of money the U.S. Government has invested in developing these items and what would be the costs incurred by a U.S. need to modify its system in reaction to Soviet acquisition. (DOD and NASA should be contacted.)

3. Are there components such as delay lines which as such are not embargoed? Are they specially designed? Could they be supplied as accessories with the studio equipment independently of the tape recorder?

Discussion: The previous task group report stated that the video recorders under discussion meet criteria a, b, and c; that they incorporate advanced technology with respect to wideband recording techniques; and that they have important and highly classified military uses. No new evidence was presented that would change that earlier determination. With respect to the specific questions, the following information was developed:

1. It is possible to distinguish between video recorders and some other magnetic recorders covered by the definition (e.g., digital recorders), but quite difficult or impossible to differentiate between them and other wideband rotary head recorders. Video recorders for color television represent the most advanced technology; therefore, approval of their export to the Bloc would in effect nullify the balance of the definition.

2. The Defense representative stated that DOD has spent \$26,514,277 for wideband rotary head recorder development and hardware. The task group was unable to estimate what costs would be incurred by a U.S. need to modify its system in reaction to Soviet acquisition.

3. Delay lines and other important components are specially designed for video recorders. They could not be supplied as accessories with the studio equipment independently of the tape recorder.


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SUMMARY

No new evidence was found to change the previous task group determination with respect to the strategic importance of video recorders for color television.

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Attachment 1

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