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DEPARTMENT OF THE AIR FORCE
WASHINGTON

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OFFICE OF THE SECRETARY

MEMORANDUM FOR GENERAL SCHRIEVER

SUBJECT: Report by Panel on Optical Instrumentation Advisory
Committee to the AFSC National Academy of Sciences,
Robert E. Hopkins, Panel Chairman

In this report the recommendation was made that the Air Force fund Corning's proposal for \$1,995,000 to provide an inventory and "Production Capability for a Domestic Source of Supply for High Quality Optical Glass." I am aware of the importance of this matter. All of our major camera suppliers, including Eastman Kodak, purchase their high quality refractive glass for their lenses from Schott of Germany and O'Hara in Japan. An inventory of high quality blanks and more particularly a production facility capable of producing them in this country would be most desirable now and most probably essential in the event of a protracted hot war.

I recommend support of this effort with Corning. If you agree, I will prepare a memorandum for your signature to Dr. Flax.

Harry I. Evans
HARRY I. EVANS
Brigadier General, USAF
Vice Director, MOL Program

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Panel on Optical Instrumentation.
Advisory Committee to the Air Force Systems Command.
National Academy of Sciences
Robert E. Hopkins, Panel Chairman

(1) Panel membership.

The Optical Instrumentation panel full time membership has been changed. It was found that the industrial members were reluctant to discuss problems freely. The new panel will be made up as follows: Robert E. Hopkins, Chairman; Dr. A. B. Meinel and Mr. D. S. Grey. If needed we will call upon the industrial people for special problems.

(2) Optical Glass.

(a) Corning has been making substantial progress in melting large blanks of glass in their Danville, Va., plant. In this work they have obtained platinum thru an Air Force Contract AF(33)(657)-14092.

(b) Corning has proposed a "Production Capability for a Domestic Source of Supply for High Quality Optical Glass." The proposal calls for the following items.

Glass inventory	\$1,400,000
Equipment	540,000
Facility	<u>55,000</u>
Total	\$1,995,000

They have suggested a list of 23 glasses for the inventory. The inventory would be in large blanks 24" in diameter and 5" thick. Corning would maintain the inventory but would fill orders for smaller sizes pertaining to National defense.

In their proposal they have provided for precision measurement of index, and other optical parameters. This type of data would make the inventory of long range value. It is our impression that measurements of this nature are extremely important and that the Corning proposal is perhaps not recommending enough attention to it.

Our understanding is that this proposal is bogged down "top sides" over some uncertainty about the choice of glass types. This, of course, is a minor point that can be settled later. Corning's enthusiasm is running high now. We strongly recommend that this proposal be funded.

(3) Holograms.

We are all intensely interested in interferograms made with two holograms. This technique probably will greatly extend our techniques for testing mechanical and optical surfaces. A sample of this technique is being demonstrated.

-3-

(4) The panel reviewed the optical problems involved in two competing systems submitted by Aerospace Corp. and Mitre. A report was sent to Dr. Brian O'Brien.

(5) Contract letting at Wright Field.

There are serious delays in finalizing contracts which come out of Wright Field. There have been several cases where the difficulty seems to occur in the communication problems in the contracting office. These delays are causing serious loss of continuity in programming research and development. Our panel could supply detailed evidence of serious delays if the Air Force would care for such a study.

Recommendations

(A) It is recommended that the Air Force fund the Corning proposal for a glass inventory.

(B) It is recommended that a study be made of contracting delays at Wright Field. The Optics panel would be willing to prepare a report on some of these delays as pertaining to Optical Instruments.