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December 31, 1964

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COMMENTS ON STATUS

Task II - Item 1. "Submicron Measurement Error Analysis"

Search continued for data on damping and dimensional stability of the materials under consideration. Extensive information was found on quartz, a limited amount of information was found on the metals, and almost no information was found on granite.

Two other materials have some interesting properties which may be suitable to the application. Beryllium has a high modulus of elasticity and low density. It is used for large optical mirrors so must have good dimensional stability. Certain ceramics made by [Redacted] reportedly have zero thermal coefficient of linear expansion.

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From work to date, it appears that no one material is best suited to all structural parts of a measuring engine. Three separate applications are apparent:

- a. The outer truss structure.
- b. The bed which is the most massive block of material in the instrument.
- c. The measuring device itself and the film holding platen.

The requirements of each will be separately considered.

Task II - Item 2. "Signal Strength of Broadcast Radiation of Closed-Circuit TV"

The preliminary technical report prepared in November, 1964, presented the data available and information on test facilities required.

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Work in December, 1964, was aimed at defining a pilot test program. [Redacted] appeared to be the most knowledgeable and extensively equipped of the local testing

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laboratories. An exploratory discussion with [redacted] indicated it would be necessary for the Testing Laboratory to participate in preparation of a control and test plan to define a pilot test program.

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Preparation of the control and test plan would cost about [redacted] and performing the test would cost about [redacted]. In addition, an engineer from the equipment manufacturer should participate which may or may not be an additional cost.

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In the next period, second preliminary reports will be prepared on Item 1 and on Item 2 of Task II.

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