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Office Memorandum • UNITED STATES GOVERNMENT

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TO : The Files (Trip Report)

DATE: 20 September 1956

FROM :

[Redacted]

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|------------|-----|----------|------------|-----------|---------|
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SUBJECT: (RD-107 T.O. 4, VLF Antenna Study)

1. On 17 September 1956 a meeting was held at the [Redacted] at [Redacted] Present were:

[Redacted]

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2. The contractor is attacking the design problem on two fronts: he is making an analytical comparison of the three designs suggested in his proposal and at the same time he is building a model of the design with separate antennas and separate isolation stages.

3. The contractor is making progress with this model. The standard test field has been in operation for two weeks and has been used in determining optimum ferrite materials and dimensions. Results of this program have indicated that unloaded Q's of 140 can be obtained. Since the loaded Q will be approximately 100 the current design calls for a ten element matrix. A test panel containing ten isolation amplifiers and the summation amplifier is being constructed. The contractor has indicated that the delivered antenna will use a ferrite prepared in the laboratory with characteristics estimated to be twice as good as production quality ferrites. As a result duplicates of the delivered item will be abnormally expensive.

4. The contractor expects to freeze the design in two weeks and estimates that delivery can be made by 1 November 1956.

5. It has been agreed that it would be useful to have a standard of comparison for antennas at very low frequencies. It has been decided that the air core loops currently in use by the Supplemental Programs Division will be tested in the standard field at the [Redacted]. A trip is being arranged for [Redacted] and [Redacted] of the SP Division the week of September 24 to cooperate in these tests.

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