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Mr W Z Friedman

S/Asst

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DEPARTMENT OF DEFENSE
NATIONAL SECURITY AGENCY
WASHINGTON 25, D. C.

R/PR 2

~~SECRET~~

19 July 1955

DECISION ON R/PR 2

on

LIZA

1. On 19 July 1955 the Director, National Security Agency, approved the recommendations in RADAC R/PR 2 and forwarded the task to the Office of R/D for necessary action.

2. This decision now becomes a part of and shall be attached as a top sheet of RADAC R/PR 2.

Constance C. Duck
for ANN M. MARLEY
Executive Secretary
Research and Development
Advisory Council

Decision on RADAC R/PR 2

DEPARTMENT OF DEFENSE
 NATIONAL SECURITY AGENCY
 WASHINGTON 25, D.C.

Prepared: Secretariat
 Recommended: RADAC
 Date: 7 July 1955
 Approved: Director, NSA
 Date: _____

REPORT BY
 THE RESEARCH AND DEVELOPMENT ADVISORY COUNCIL
 TO DIRECTOR, NATIONAL SECURITY AGENCY

LT2A

PROBLEM

1. To establish a task for research on the structure of ferrites.

DISCUSSION

2. Inclosures: A. Task Summary Sheet
 B. Task Background Sheet

CONCLUSION

3. It is concluded that:
 - a. There is a need for research on the physical properties of magnetic materials.

RECOMMENDATIONS

4. It is recommended that:
 - a. A task be established for research on the structure of ferrites.
 - b. Data contained in Inclosure A, Task Summary Sheet, be approved.

CONCURRENCES

5. The following members/alternates concur in the recommendations of this report:

R/D - Dr. S. Kullback	LOG - Col. N. T. Kincaid
COMSEC- Lt.Col. K. I. Davis	P/P - Mr. L. E. Shinn
COMP - Lt.Col. C. K. Milroy	PROD - Mr. Dale Marston

6. The following observers were present: Mr. A. B. Clark, DD/RD, Mr. A. Rose, Mr. C. Schierlmann, Mr. M. M. Mathews, Mr. J. Grone, Dr. E. Callen, R/D; Mr. T. Chittenden, COMSEC; Mr. J. Tasker, LOG.


 S. KULLBACK
 Chairman
 Research and Development
 Advisory Council

DEPARTMENT OF DEFENSE
NATIONAL SECURITY AGENCY
WASHINGTON 25, D.C.

Approved: Acting Chief
Physical Research Division, R/D
Date: 2 June 1955
Recommended: RADAC
Date: _____
Approved Director, NSA
Date: _____

Report by the Acting Chief, Physical Research Division, R/D
to RADAC
on LIZA

Problem

1. To establish a task for research on the structure of ferrites.

Discussion


2. Inclosures A. Task Summary Sheet
B. Task Background Sheet

Conclusions

3. It is concluded that:
 - a. There is a need for research on the physical properties of magnetic materials.

Recommendations

4. It is recommended that:
 - a. A task be established for research on the structure of ferrites.
 - b. Data contained in Inclosure A, Task Summary Sheet, be approved.


JOHN L. CRONK
Acting Chief
Physical Research Division
Office of Research and Development

TASK SUMMARY SHEET

TASK NO. 370-1201 NOMENCLATURE _____ COVER NAME LIZA

TITLE Research on the Physical Properties of Magnetic Materials

PROJECT RHO SUB-PROJECT Physical Research

SECURITY CLASSIFICATION Unclassified PRIORITY 1-B(N) TECHNICAL OBJECTIVE IO-9

STARTING DATE Upon approval COMPLETION TARGET DATE Continuing NO. & TYPE OF MODELS As required

APPROVED BY _____ DATE _____

REQUIREMENT

1. Origin of Request: NSA
2. Principal Application: Experimental and theoretical investigation of ferrite physics.

DESCRIPTION:

To gain insight into the quantum nature of magnetic materials, and in particular, the exchange interaction. To discover by means of neutron diffraction the distribution of divalent and trivalent metal ions among octahedral and tetrahedral sites in intermediate spinels. To relate this distribution to statistical thermodynamics, and thereby to increase our knowledge of the various terms of the energy of ionic crystals. To investigate the microwave transmission characteristics of ferrites.

COST DATA

	Estimated Total Cost	Expenditures Prior to FY 56	Estimated FY 56	Estimated FY 57	Estimated FY 58	Estimated FY 59
(Man Years)	5	None	.5	1.5	1.5	1.5
(Labor Cost)	\$32,177	None	\$3,068	\$9,547	\$9,703	\$9,859
(Purchases)	\$30,000	None	None	\$10,000	\$10,000	\$10,000
(Contract)	\$375,000	None	\$75,000	\$100,000	\$100,000	\$100,000
TOTAL COST	\$437,177	None	\$78,068	\$119,547	\$119,703	\$119,859

PROGRESS TO DATE

A contract proposal for neutron diffraction studies on ferrites has been submitted. A contract proposal for chemical preparation and analysis, X-ray diffraction, microwave resonance experiments, and for theoretical analysis, is being prepared and will be submitted on or about 15 July 1955.

PRODUCTION PLAN

Not applicable.

INCLOSURE A
R/PR 2

TASK BACKGROUND SHEET

TASK NO. 370-1201

CLASSIFICATION Unclassified

I. Completion Data - This is to be a continuing program. Construction of the neutron spectrometer should be completed in nine months.

Significant results from this intensive program should be forthcoming within a year.

II. Requirement - The results of this research program will provide a greater understanding of the physical characteristics of ferrites and of their microscopic origin.

III. Production Cost Date - Not applicable.