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Digital Computer Laboratory  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

CLASSIFIED & CONTROL TO:
Auth: DD254
By: RRE
Date: 3-15-66

SUBJECT: FY54 BUDGET PROPOSAL FOR DIVISION VI

To: M. M. Hubbard  
From: J. W. Forrester and H. R. Everett  
Date: March 21, 1952

General Procedure

An estimate was made of the staff and non-staff required for the various activities that should be underway in FY54. In addition estimates were made of materials and services costs and extraordinary commitments. The staff and non-staff figures were converted into dollars by using an average yearly cost per category based on present practice.

Present average DIC salary	\$5400/year
OH at 46%	2468
Total yearly	\$7868/year
Allow per staff man year	\$8000/year
Present average non-staff wages	\$3500/year
OH at 46%	1610
Total yearly	\$5110/year
Allow per non-staff man year	\$5500

The following paragraphs discuss the separate groups in some detail. A summary sheet is appended.

Group 60-Administration and Services

The administration and services of the division have been placed in a separate group for accounting purposes. Group 60 performs the same functions for Division VI that Division I does for the rest of Lincoln. The large number of non-staff include shop, drafting, and other service personnel. The estimate was made by assuming the same ratio of service to technical personnel as now exists in Division VI.

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25 staff at \$8 thousand/year	\$200 thousand
200 non-staff at \$5.5 thousand/year	1100 thousand
Total Operating	\$1300 thousand
Materials and services including shop and other materials not normally allocated to separate groups	\$ 400 thousand
Total	\$1700 thousand

Group 61 - Cape Cod

The necessary terminal equipment and buffer drums for the multiple radar inputs to WWI should be installed by the spring of 1953 and the Cape Cod system should be in operation by the beginning of FY54. Very substantial additions in the form of special terminal equipment for display, ground-observer corps data, flight-plan data, etc. will still be needed and will involve a large amount of engineering and construction during the year. The analysis groups that have been studying and planning the operation of the system during FY53 must continue at increased strength in order to make full use of the lessons to be learned by actual operation. Finally, the operating groups that plan and run the experiments must be increased. The proposed increase to 85 staff members for this group provides for only the most important of the problems that can be foreseen at this time.

85 staff at \$8 thousand/year	\$680 thousand
40 non-staff at \$5.5 thousand/year	220 thousand
Total salaries, wages and OH	\$900 thousand
Materials and services	200 thousand
Total Operating	\$1100 thousand
Extraordinary commitments	400 thousand
Total	\$1500 thousand

Group 62 - Whirlwind II

The actual detailed design and construction of most of the WWII computer will take place during FY54. In addition, the research groups must be maintained to provide for future improvements, and a substantial effort must go into liaison with a manufacturer who must be working closely with Lincoln by that time. The apparent decrease in staff from the 100 proposed in the FY53 budget to the 85 proposed in this budget results from two causes:

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- 1) The magnetic materials development and testing section has been made a separate group (Group 63) requiring 20 staff members.
- 2) The administration and services have been separated into Group 60.

WWII effort must increase in FY54 over FY53 if completion dates are to be met. A large sum will be needed for extraordinary expenses in FY54 for sub-contract construction and the purchase of terminal equipment.

85 staff at \$8 thousand/year	\$680 thousand
70 non-staff at \$5.5 thousand/year	385 thousand
Total salaries, wages, and OH	\$1065 thousand
Material and services	200 thousand
Total operating	\$1265 thousand
Extraordinary commitments	650 thousand
Total	\$1915 thousand

Group 63 - Magnetic Materials

The continued development of magnetic and ferroelectric materials holds great promise for WWII and later computers. Group 63 will engage in basic research by assisting the Laboratory for Insulation Research, will work with manufacturers involving both liaison and sub-contracts, will produce some materials in their own shop, will make detailed analyses and tests of new materials and will procure and test large quantities of materials for WWII. The extraordinary commitments will involve mostly core purchases and sub-contracts.

20 staff at \$8 thousand/year	\$160 thousand
25 non-staff at \$5.5 thousand/year	138 thousand
Total salaries, wages, and OH	\$298 thousand
Materials and services	40 thousand
Total operating	\$338 thousand
Extraordinary commitments	200 thousand
Total	\$538 thousand

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Group 64 - Whirlwind I

Group 64 maintains the WWI computer as well as the associated terminal equipment and buffer drums. It is also responsible for the installation and debugging of the special equipment planned by Group 62. A large amount of special terminal equipment (approximately equal in tube count to the present WWI) will be added in FY53 and must be maintained in FY54. The computer will be operating on three shifts by that time, also increasing the maintenance load. As a result, the WWI maintenance group should increase by about 50% over its present size.

35 staff at \$8 thousand/year	\$280 thousand
30 non-staff at \$5.5 thousand/year	165 thousand
Total salaries, wages and OH	\$445 thousand
Material and services	100 thousand
Total operating	\$545 thousand

Group 65 - Storage Tubes

The operation of WWI and the success of the Cape Cod program is dependent on a reliable flow of replacement storage tubes. By FY54, WWI will be operating three shifts a day using two banks of storage. Up to four times the present replacement rate may be required. Nonetheless, it is assumed that a group of about the present size will be able to handle the load through reduced shrinkage and improved tube life.

11 staff at \$8 thousand/year	\$88 thousand
20 non-staff at \$5.5 thousand/year	110 thousand
Total salaries, wages and OH	\$198 thousand
Materials and services	50 thousand
Total operating	\$248 thousand

Signed: *Jay K. Forester*  
J.K. Forester

Signed: *R.R. Everett*

SECURITY INFORMATION R.R. Everett

cc: F.W. Loomis  
A.G. Hill

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FY54 BUDGET PROPOSAL FOR DIVISION VI

<u>Group</u>	<u>Personnel</u>			<u>Operations \$ (thousands)</u>				<u>Total</u>
	<u>Staff</u>	<u>Nonstaff</u>	<u>Total</u>	<u>Salaries, Wages and Overhead</u>	<u>Materials and Services</u>	<u>Total Operating</u>	<u>Extra- ordinary Commitments</u>	
60 Administration and Services	25	200	225	1300	400	1700	—	1700
61 Cape Cod	85	40	125	900	200	1100	400	1500
62 Whirlwind II	85	70	155	1065	200	1265	650	1915
63 Magnetic Materials	20	25	45	298	40	338	200	538
64 Whirlwind I	35	30	65	445	100	545	—	545
65 Storage Tubes	11	20	31	198	50	248	—	248
<b>Total</b>	<b>261</b>	<b>385</b>	<b>646</b>	<b>4206</b>	<b>990</b>	<b>5196</b>	<b>1250</b>	<b>6446</b>

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DIGITAL COMPUTER LABORATORYINTER-OFFICE  
CORRESPONDENCE

Massachusetts Institute of Technology

BUILDING Barta PROJECT Whirlwind FROM R. R. Everett, H. Fahnestock  
 ► TO J. W. Forrester OFFICE \_\_\_\_\_ DATE Mar. 5, 19 52  
 SUBJECT SENIOR STAFF MEETING

The laboratory has grown enormously in the last few months and will grow still greater in the next year. This numerical growth is accompanied by a comparable growth in the diversity of jobs undertaken, responsibility for accomplishment, and organizational complication. In addition, the laboratory is now split into two buildings and will eventually be split into three. These changes have made it increasingly difficult for the senior members of the laboratory to keep track of plans and progress and to make competent technical and administrative decisions.

We feel that the time has come for a regularly scheduled formal meeting of senior laboratory staff with the following organization suggested:

1. The meeting will consist of group leaders and laboratory directors only. The Friday teas are too large for efficient action. The present membership on this basis would be:

✓ Forrester	Taylor	<i>adams</i>
✓ Everett	Brown	
✓ Fahnestock	Youtz	
Wieser	✓ Dodd	

2. Minutes of the meeting should be taken, written up, and distributed. There is too little documentation of decisions at present. Brown would make a good secretary.
3. The meetings should consist of presentations by the group leaders of their plans and programs with serious technical questioning and objection by all other members. There are several purposes to the meeting:
  - a) To keep the members informed as to what is going on in the laboratory in much greater detail than is possible at the tea.
  - b) To critically analyze the progress of the laboratory and to assist group leaders in plans and decisions.
  - c) To assist in making personnel assignments and in assigning job priorities.
4. A single group might be put on the carpet at each meeting with short reports from the others. Each group should have a regular turn. There should be prearranged but flexible agenda for each meeting probably prepared by one of us.

► ORIGINATOR RETAIN TRIPLICATE, SEND FIRST AND SECOND SHEETS WITH CARBON STILL IN PLACE TO CORRESPONDENT WHO SHOULD RETAIN DUPLICATE AND RETURN THE ORIGINAL WITH COMMENT.

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BUILDING Barta PROJECT Whirlwind FROM RR Everett, H. Fahnestock  
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SUBJECT SENIOR STAFF MEETING (continued)

5. One product of such a meeting would be to force the group leaders to know in detail what their groups are doing and why.
6. Meetings should be scheduled at a fixed time once a week for a period of probably not over two hours.
7. There are certainly too many meetings now but perhaps this one would reduce the need for so much cross-attending of group leaders and directors at detailed group meetings.

RRE:rdf  
cc: RR-Everett  
H. Fahnestock ✓

*HA - RRE*