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Division 6 - Lincoln Laboratory  
 Massachusetts Institute of Technology  
 Cambridge 39, Massachusetts

SUBJECT: GROUP LEADERS' MEETING, May 10, 1954

To: Group Leaders

From: David R. Brown

Date: May 11, 1954

Present: J. W. Forrester, C. W. Adams, D. R. Brown, S. H. Dodd, R. R. Everett,  
 W. K. Inwill, J. C. Proctor, N. H. Taylor, C. R. Wieser, and  
 for Item 2, J. B. Bennett

- Agenda:
1. Building for FSQ-7 (XD-1)
  2. Quarterly Progress Report
  3. Visits to Canada
  4. Partitioning in Building B
  5. IBM Computation Seminar in Endicott
  6. Construction of FSQ-7 (XD-1)
  7. Advanced Development
  8. Meeting with ADC on May 5
  9. Group 63 X-ray Program
  10. Design of Display System
  11. Planning for the Duplex Central
  12. Staff Salary Review

1. Building for FSQ-7 (XD-1)

Bids for the construction of Building F in Lexington were opened on May 7. The National Construction Company of Boston submitted the lowest bid, \$278,000. The contract will be handled by AFCRC in Boston. Approximately ten days will be required for approval of the contract at Wright Field and Baltimore. The contractor is to have the basement ready for occupancy 60 days after the contract is awarded, the first floor after 90 days, and the second floor after 105 days. After 150 days, the building is to be finished. If the present schedule is maintained, the building will be finished in mid-October.

2. Quarterly Progress Report

The March 15 Quarterly Progress Report is still being written. Feature articles have been delayed by the slow start and by other responsibilities of the authors. The four feature articles are: (1) Physical Installation of XD-1 by C. W. Watt; (2) XD-1 Logic by H. D. Bennington; (3) The Cape Cod Program by H. D. Bennington; and (4) Memory Core Production and Testing by J. R. Freeman. Dummies have been prepared for all four articles and complete drafts are available for the first and fourth. Drafts

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of the second and third are expected by the end of the week of May 10. J. W. Forrester and R. R. Everett will review the present dummies and drafts and transmit their comments to J. B. Bennett on May 11.

The work of authors of different sections of the Quarterly Progress Report should be reviewed frequently and especially in its early stages. In the future definite dates should be established for the review of drafts of feature articles at the Group Leaders' Meetings.

### 3. Visits to Canada

Now is the time for renewal of extended clearance for visits to Canada.

### 4. Partitioning in Building B

An order for partitioning in Building B was placed on April 22. According to the contractor's quotation, the work will be finished sometime between June 10 and July 1. J. C. Proctor will determine the completion date more exactly by checking with the contractor's factory schedule. Wiring, plumbing, etc., are being installed. Air conditioning for MTC is a problem, however. The procedure required for approval of the air-conditioning system is uncertain.

### 5. IBM Computation Seminar in Endicott

C. W. Adams attended a four-day computation seminar on applications of the IBM 701. Nineteen 701's were represented at the meeting. The papers emphasized automatic coding and matrix operations. The IBM 701-A was announced at the seminar. This modification of the 701 includes a redesigned arithmetic element having shorter multiplication time, a B box, floating-address operations, etc. Notes on papers presented at the seminar are available in the 6345 library.

### 6. Construction of FSQ-7 (XD-1)

The first XD-1 frame has been assembled approximately four weeks behind schedule. The amount of activity in the IBM construction and test area is encouraging. The present status of the job indicates that XD-1 will be delivered approximately four to eight weeks after the scheduled November date.

### 7. Advanced Development

J. M. Coombs has suggested to R. R. Everett and N. H. Taylor that advanced development work be undertaken in Project High so that the senior engineers on the project will not be taken out of Project High and assigned to other projects. Advanced development for FSQ-7 design should be encouraged. Retaining senior FSQ-7 design personnel in Project High is essential for the future of the FSQ-7 Program. IBM would like MIT to suggest areas for advanced development work. We should consider the relationship of this program to our own advanced development program.

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The Division 6 Advanced Development Program is studying several jobs of interest to FSQ-7 designers. These include the display decoder, the light gun, and the neon indicator registers. In studying the applicability of new techniques to these devices, we expect to learn a great deal about the techniques themselves. New techniques will first be tried out in WWI or MTC.

In reviewing the status of magnetic-core circuit development, we find that present components limit the upper prf to approximately 100 kilocycles per second. Higher prf's can be obtained if better diodes can be made. Before an intensive program for improvement of diode characteristics can be undertaken, the need for higher prf in future systems must be reviewed.

8. Meeting with ADC on May 5

A meeting with ADC on May 5 considered rearrangement of some of the functions of the direction center. The subsector commander was moved out of the central control area and placed in a separate staff room. The installation of large automatic displays in a number of areas in the direction center was discussed. ADC feels these large displays should be installed in the 26th Air Division.

9. Group 63 X-ray Program

Group 63 has recognized the need for an x-ray facility to be used in its long-range program of study of magnetic materials. Funds for the purchase and installation of an x-ray unit have been provided in the Group 63 budget. Division 3 has suggested that this x-ray facility be combined with the present Group 35 x-ray facility. A review of the x-ray work planned by Group 63 has indicated the desirability of a separate installation in Group 63. Earl Thomas, Group Leader of Group 35, has participated in this review.

The transfer of Don Tuomi, structural chemist in Group 35, to Group 63 has been proposed so that Dr. Tuomi could provide guidance for the Group 63 x-ray program.

10. Design of Display System

The equipment required for the 7h-tube FSQ-7 display includes approximately 11,000 vacuum tubes. Elimination of from 3,200 to 3,400 tubes in the deflection-voltage amplifiers would be possible if the display period were increased from 2-1/2 or 3 microseconds to approximately 3-1/2 microseconds. The reduction in the number of tubes would be obtained by the transmission of the deflection voltages to all display tubes from a central deflection-voltage amplifier.

This proposed change will be reviewed at a meeting to be held at 2:00 pm on May 12 attended by the Group Leaders concerned, C. Corderman, and J. O'Brien.

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11. Planning for the Duplex Central

The first duplex-central-planning report will be issued as an IBM report. Prior to the issuance of the IBM report, however, eight or ten advanced blueprint copies will be distributed at IBM and MIT by the end of the week of May 10.

12. Staff Salary Review

Consideration of the staff salary review revealed considerable confusion and difference of method among the various groups in the calculation of adjustments. Additional effort will be required before the review is completed. J. C. Proctor will calculate the formula salary for all staff for which the formula is applicable. This might include all those staff members ten years past the BS for the staff at the top of the list and all those six years past the BS for those near the bottom of the list.

Signed

*David R. Brown*

David R. Brown  
Secretary

DRB/jk

cc: A. P. Kromer  
W. K. Livvill

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