

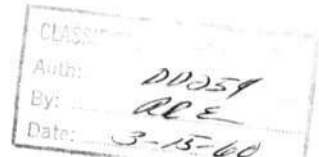
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Memorandum 6L-176

Copy No. 1 of 20 copiesDivision 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Lexington 73, Massachusetts

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SUBJECT: GROUP LEADERS' MEETING, December 13, 1954
 To: Group Leaders
 From: David R. Brown
 Date: December 17, 1954



Present: J. W. Forrester, D. R. Brown, S. H. Dodd, R. R. Everett,
 A. P. Kromer, J. C. Proctor, N. H. Taylor, G. R. Wiesser, and
 R. L. Walquist for Item 2

- Agenda:
1. Exhibit AFCRC 17
 2. Programming for AN/FSQ-7(XD-1)
 3. Core Memory Speed
 4. Magnetic Drums
 5. IBM Engineering Support Program
 6. General Ceramics
 7. Negotiations with Philco
 8. Meetings on Buildings
 9. Maintenance Contract for FSQ-7's
 10. Manpower Requirements
 11. Building F Responsibilities
 12. Meetings

1. Exhibit AFCRC 17

IBM, AFCRC, and Lincoln will meet on December 15 to discuss exhibit AFCRC 17 for production AN/FSQ-7's. The exhibit will include all items which will be a part of the first installation to be made in June of 1956. The following items, not yet designed, will be included in the first amendment to the exhibit:

1. Misc panel
2. Mapper supervisor's position
3. Semiautomatic camera
4. Command post DID

2. Programming for AN/FSQ-7(XD-1)

R. L. Walquist presented plans for XD-1 programming. Fifteen staff members are to be working on this by January 1, 1955. After a brief training period, these persons will work on utility programs for XD-1. Time on XD-1 to check out utility programs will be required in mid-April. By November, 1955, the bulk of the air-defense program will be ready for operation with XD-1. This program will not include automatic initiation,

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battle simulation, or anti-aircraft direction. This time schedule includes a one-month delay of the original time schedule on account of a delay of central display and fine-grain data.

R. L. Walquist will prepare a new schedule, not including any delays to meet anticipated delays in equipment. These schedules will be called to the attention of J. H. Newett. They will show explicitly what equipment is needed and at what time. They will also show personnel requirements for operation of XD-1 (operators for display consoles, etc.). N. H. Taylor will be kept informed. More programming assistance will be obtained if necessary.

At the Group Leaders' Meeting on December 20, R. L. Walquist will present the new schedule for XD-1 programming, including any additional assistance he can use, the equipment he needs, etc. Liaison with IBM for the development of trouble-location programs, etc., will be scheduled.

3. Core Memory Speed

N. P. Edwards is the one responsible for IBM's resistance to a proposal to reduce the specified memory cycle to 6 microseconds. The proposal will be discussed with the joint IBM-MIT coordinating committee.

4. Magnetic Drums

A number of difficulties have been encountered in getting magnetic drums for XD-1. These difficulties have been recognized and apparently steps have been taken to surmount them. Data adequate for evaluating the performance of the magnetic-drum system will not be available until about January 15. The drum situation might be put on the agenda for the joint IBM-MIT guidance committee meeting on December 22.

5. IBM Engineering Support Program

A new, more detailed proposal for IBM's engineering support program for AN/FSQ-7 was written by N. H. Taylor and N. P. Edwards on December 10. This proposal will be reviewed by the Lincoln Laboratory persons most concerned before it is submitted to the Air Force.

6. General Ceramics

General Ceramics' reluctance to give MIT permission to publish information concerning the manufacture of ferrite memory cores was discussed with the Lincoln Laboratory Steering Committee on December 7. The opinion of the Steering Committee seems to be that we should be considerate of General Ceramics, but at the same time continue to negotiate with them with the objective of publication. On December 8, J. W. Forrester and R. R. Everett had lunch with H. Arnold, Chairman of General Ceramics Board of Directors, and C. L. Snyder. General Ceramics' reluctance to have information published was restated.

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7. Negotiations with Philco

Philco has asked Lincoln Laboratory to support their continued activity in the application of surface-barrier transistors to digital-computer circuits. They want to collaborate with Lincoln Laboratory on the development of digital-computer circuits using surface-barrier transistors in order to get on the ground floor of any possible production program which might result using these circuits. From our point of view, we are most interested in collaborating with Philco on the surface-barrier transistor as a component, improving it for application in digital-computer circuits. A subcontract aimed at improving the surface-barrier transistor for application in digital-computer circuits is proposed. The subcontract might include support for from two to four Philco engineers working on measurement and development of digital-computer circuits using surface-barrier transistors. The cost of the proposed subcontract would be less than \$100,000 per year. Philco's proposal for collaboration will be discussed in more detail at Philco on December 21. Contract negotiators from Lincoln Laboratory and Philco will attend the meeting. Philco's direct-coupled circuits must be treated as company confidential until February or March, 1955.

Since the Steering Committee has asked that all proposals for purchase orders or subcontracts in excess of \$25,000 be reviewed by the Steering Committee at an early stage in the negotiations, this proposal will be submitted to the Steering Committee on December 17. Steering Committee approval will also be required just before any commitment in excess of \$25,000.

D. R. Brown will prepare a half-page description of the proposal to be submitted to the Steering Committee on December 17.

8. Meetings on Buildings

Two meetings on buildings were held in New York during the week of December 6. Direction-center building plans were reviewed at one meeting. Preliminary plans were sent to nine or ten bidders; quotations are expected by the end of December. Plans for the combined direction and combat center were reviewed with air installations officers at another meeting. Plans were agreed upon which call for interconnection on only one story, but provide sufficient foundation so that interconnections can be provided on the other stories at a later date if necessary.

9. Maintenance Contract for FSQ-7's

Representatives of IBM, RAED, AFGRC, and Lincoln Laboratory will meet in Poughkeepsie on December 16 to discuss the IBM maintenance contract and spare-parts situation. The first draft of the proposed maintenance contract written by the Air Force will be reviewed at the meeting.

10. Manpower Requirements

According to Memorandum L-173, Division 6 requires 107 new staff members. This was presented to the Lincoln Laboratory Steering Committee

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as the number of new staff we would require if we were to do all of the work which has been planned. As a matter of fact, we have neither the recruiting effort, the space, nor the budget to obtain these additional staff members. J. W. Forrester and R. R. Everett, will review manpower requirements on December 17 prior to the Lincoln Laboratory Steering Committee Meeting, calling on the Group Leaders concerned during this review.

11. Building F Responsibilities

N. H. Taylor is concerned over MIT's authority for the XD-1 program in Lexington and getting the prototype system running. The solution to this problem is not clear. Certainly N. H. Taylor must be responsible for monitoring IBM's work, but this will not necessarily get the machine running on schedule. Detailed time schedules must be prepared so that a weekly check of IBM's progress can be made. IBM should do everything which can be defined. Every effort should be made to see that IBM has the whole job and the authority for carrying out that job. MIT's limited manpower should be reserved for unforeseen problems which are bound to arise.

12. Meetings

At a meeting to discuss exhibit AFCRC 17 on December 8, objection was raised to Air Force insertion of standard military specifications on temperature cycling, humidity, etc. An effort will be made to have the Joint Project Office approve a set of general requirements for SAGE system ground installations which will not include unreasonable military specifications.

On December 16 a meeting on quality control will be held in Poughkeepsie. B. Faine will attend for the Lincoln Laboratory.

On December 14 a regular monthly meeting to review the status of the SAGE system will be held at the Joint Project Office in New York.

Signed

David R. Brown
David R. Brown
Secretary

DRE/jg

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

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