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

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Auth: DD-254
By: RRE
Date: 5-15-60

SUBJECT: GROUP LEADERS' MEETING, April 20, 1954

To: Group Leaders

From: David R. Brown

Date: April 22, 1954

Present: J. W. Forrester, D. R. Brown, S. H. Dodd, R. R. Everett
A. P. Kromer, W. K. Linvill, J. C. Proctor, N. H. Taylor,
C. R. Wieser, and P. Youtz

- Agenda:
1. Sprague's Report on Air Defense
 2. Meeting at Colorado Springs During Week of April 12
 3. Building F
 4. April 15 Meeting on Army 414 Program
 5. Planning for the Duplex Central
 6. IBM Time Schedules
 7. Staff Salary Review
 8. Advanced Development Program
 9. Meeting in Colorado Springs on Budget
 10. Characteron and Typotron Development
 11. General Ceramics
 12. Move to Lexington
 13. Visit by Boeing on April 16
 14. ADES Contract

1. Sprague's Report on Air Defense

J. W. Forrester attended a talk at MIT on April 16 by R. E. Sprague, who was appointed by Senator L. Saltonstall's Armed Forces Committee to study the air defense situation. Sprague worked for six months on the study and preparation of the report. He talked with many men active in air defense, from President Eisenhower to airmen at radar sites. His report, which was presented to the Senate Armed Forces Committee and the National Security Council, emphasizes the importance of area defense. Lincoln's role in air defense is specifically mentioned and continuation of the Lincoln program is urged. The report is very positive in its conclusions and recommendations, but is perhaps somewhat optimistic. R. E. Sprague has been asked by the Senate Armed Forces Committee to continue his work for another six months.

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2. Meeting at Colorado Springs During Week of April 12

A group from this Laboratory and representatives of ADES met with ADC at Colorado Springs to answer ADC's questions concerning the operation of two computers at a single site, the number of large radars feeding data to the duplex central, the accuracy of radar data, and the magnitude of the telephone-line problem. The meeting was satisfactory in answering these questions for ADC.

The Air Force will set up a joint project office, possibly at Wright Field, which will include representatives from each of the organizations participating in the air defense program. This office will be the focal point for Air Force business relating to the air defense program, particularly where contractual relationships are involved.

Later during the week at Colorado Springs, N. H. Taylor found considerable concern on the part of ADES and ADC over the number of telephone lines required by the system. ADES proposed that the video combiner might be used to permit transmission of gap-filler data to P sites, thus reducing the number of telephone lines. No conclusions were reached. These questions will be raised again.

ADES advocates duplexing transition-system communications.

3. Building F

Teletype approval for construction of Building F is expected from Washington, D.C., during the week of April 19.

4. April 15 Meeting on Army 411 Program

The Army's 411 program for direction of anti-aircraft batteries might be integrated into the transition system. No effective program for carrying this out is underway.

5. Planning for the Duplex Central

Discussions on the methods of operating two computers, switching, etc., have continued here, and a number of proposals have been formulated. An overall picture of the duplex central will be written by early May and presented with arguments for alternate proposals. The report will recommend floor plans and an equipment list. A second report, to be available in July, will be more definite and detailed.

These reports will not include very much information on changes in XD-1 design necessary for the first production FSQ-7's. IBM is doing very little work on design changes for the production machines, having no manpower for this activity. During the fall of 1954, IBM expects to begin ordering parts for the first seven FSQ-7 systems.

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A group in ADES is studying the duplex central from the point of view of building design, maintenance requirements, etc. Someone from S. H. Dodd's group should work with ADES in this study.

6. IBM Time Schedules

Posted time schedules have just been received from IBM. S. H. Dodd believes that IBM is trying to get back on the original time schedule and is doing fairly well. Time schedules for the magnetic drums will be the most difficult to meet. The first module, module C of the instruction frame has been completed and appears to work well electrically, but poor mechanically.

N. H. Taylor feels that the only way IBM can meet the original schedule is to go on three shifts. When MIT has facts indicating a large lag in the time schedule, it should go to people in the IBM organization high enough to take steps to put the program back on schedule.

7. Staff Salary Review

Proctor attended the last Steering Committee Meeting. A. Hill, G. Valley, and M. Hubbard are preparing suggested instructions for the salary review. Until we receive these suggested instructions, we are going ahead on the basis of the information we now have. We should pay particular attention to cross-referencing our staff members with staff members of other Divisions. Our work in Division 6 must be finished by May 1. Group Leaders will see J. W. Forrester individually this week.

8. Advanced Development Program

Adequate office and laboratory space appears to be available on the third floor of Building 10. The proposed name for the Building 10 activity, Computation and Control Systems Laboratory, should be re-examined. The university of Illinois Control Systems Laboratory is too well known.

The component work in Building 10 is to emphasize the use of new solid-state components to improve reliability in digital-computer circuitry. Only four or five Research Assistants will move to Building 10 initially. Individual conferences with senior members of Division 6 are being arranged for the Research Assistants to discuss technical problems.

9. Meeting in Colorado Springs on Budget

A. P. Kromer will spend several days during the week of April 26 at Colorado Springs with ADC and ADES to assist in planning the Air Force budget.

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10. Characteron and Typotron Development

Convair has had a contract with IBM for four weeks and its plans for test and evaluation are progressing satisfactorily. However, Convair has made only one Characteron in these four weeks. P. Youtz and F. Rogers emphasized the necessity of Convair's making a sufficient number of tubes to be absolutely sure that all difficulties have been removed. They recommended that Convair make one tube per day instead of the few tubes per month which had been planned. P. Youtz will follow up this situation to see that satisfactory progress is made.

Progress at Hughes on the Typotron is more satisfactory. We have ten Typotrons on our order and IBM is negotiating with Hughes for a contract. Life tests now carried to 1,000 hours indicate satisfactory Typotron performance.

11. General Ceramics

A visit by Harold Ross of IBM and D. Brown to General Ceramics on April 6 has improved relationships between IBM and General Ceramics. Two Vice Presidents of General Ceramics visited Division 6 on April 13, with confidential clearance, and now have a much clearer understanding of our program and its importance. General Ceramics has resolved to send only the best lots of memory cores to IBM.

12. Move to Lexington

Partitions for Building B have not yet been ordered and no definite time schedule for installation of partitions has been prepared. The moving date remains uncertain.

13. Visit by Boeing on April 16

Representatives of Boeing and Westinghouse visited the Laboratory to discuss output specifications with relation to the Bomark program. G-20 is a control system for Bomark guidance outside of the transition-system area. Within the transition-system area Bomarks are to be treated as another weapon. The G-20 system is very different from the transition system.

Our work on simulated Bomark guidance was presented to Boeing.

14. ADES Contract

The AMC has prepared a contract proposal for ADES. Questions concerning ADES purchasing have been raised which will necessitate further discussions of this proposal.

DRB/jk

cc: A. P. Kromer

W. K. Linville

Signed

David R. Brown
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