

Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Lexington 73, Massachusetts

SUBJECT: SUMMARY OF MIT-IBM COLLABORATION ON DESIGN OF AN/FSQ-7 (XD-1)
COMBAT INFORMATION CENTRAL, JULY 1 THRU AUGUST 31, 1954

To: J. W. Forrester, R. R. Everett, J. C. Proctor, C. R. Wieser,
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From: A. P. Kromer

Date: September 9, 1954

Abstract: MIT-IBM engineering concurrence has been reached on requests for DC buildings, equipment cooling, lighting and power generation for the production systems. These requests were subsequently issued as Lincoln Technical Information Releases by the Production Coordination Office. A proposal to provide duplex equipment similar to AN/FSQ-7 for the air division Combat Center has been furnished to ADC. Initial period of operation for the SAGE System will have maintenance services and spare parts supplied under contract with IBM.

Engineering Visits

During this period which included two weeks shutdown by the IBM organization approximately 137 man days were spent at MIT by IBM personnel and approximately 213 man days were spent at IBM locations by MIT personnel.

Exchange of Publications

During this period we forwarded to IBM 75 M Notes and other miscellaneous memoranda and drawings.

We have received from IBM five "H-Notes", five "IM" Reports, six "TR" Reports, three "PM" Reports, two Project High Biweekly Reports, seventy-eight miscellaneous electrical laboratory test reports and nine other miscellaneous reports.

General Comments

One of the major activities during this period has been engineering concurrence on information required for the production system Direction Center building, cooling system, special lighting, and power system. Also an equipment layout for the first floor (computer frame equipment areas) and physical characteristics of the various pieces of equipment have been agreed upon. Following these engineering concurrences this material was formally processed through as a Lincoln Technical Information Release so

that it may be used by Air Force and the Western Electric-ADES organizations in connection with planning for the system.

Engineering concurrence on technical design specifications for XD-1 has continued and has included the display console and the central display system among other areas.

IBM Project High Engineering group has been reorganized to establish three major areas of activity. One concerned with testing of the XD-1 and XD-2 prototype systems. The second concerned with design and release of the duplex production systems and the third concerned with components and technique developments.

Agreement for IBM to construct digital data transmitters and digital data receivers in accordance with the design to be prepared by MIT was reached early in this period. Following construction and wire check the units will be returned to MIT for performance testing.

A series of conferences with the Air Force lead to a proposal that a Duplex System similar to AN/FSQ-7 would be available for data processing at the Combat Center. IBM participated in these and prepared preliminary estimates of cost for use in connection with budget preparation.

Consideration by the Air Force of the method of providing maintenance services and supply of spare parts for production systems has led to tentative recommendations that at least during the first several years of operation, the SAGE System Direction Centers should have contract maintenance and supply of parts. IBM has instituted a program to develop a spare parts philosophy and are requesting contractual authorization to permit them to take procurement action for these spare parts simultaneous with procurement of the material and parts to be fabricated into the first two systems.

The Production Coordination Office actively started formal release of information covering requirements for the SAGE System. All such documents in the future will be released through this channel. IBM has provided a full time resident man at MIT to serve as a liaison contact with the PCO for areas affecting the system which are beyond the scope of the MIT Systems Office. Such items include building, cooling, lighting, etc.

Signed: _____


A. P. Kromer

Approved: _____


N. H. Taylor