

TO: C/HED, DC/ADD

SUBJECT: Plan to Relocate the Third Floor AFS Modem Closet, [REDACTED]

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1. This memorandum explains the unsatisfactory conditions surrounding the use of the present AFS modem closet and proposes a plan to relocate the closet 20 feet to a more suitable telephone closet, which has now become available.

2. BACKGROUND:

During early 1986 inspections, members of FBIS inquired whether the telephone closet (room 3N04) would be available for AFS use. FBIS representatives were informed by building personnel that the room "belonged to OIT." So it was decided by the RTTC in mid-1986 to use the clothes closet on the south west corner of the third floor, outside the computer room, as a modem closet, to house over 50 AFS modems in 3 racks. After numerous design proposals, it was decided to place 2 smaller (14 x 24 inches) modem racks in the modem closet, and a large (24 x 29 inches) VER-SITRON rack in the nearby large power filter room (room 3815) due to its large size. In November and December 1986, two memoranda were sent to the Reston Steering Committee to have conduit for signal lines and power installed in the modem closet and filter room. Since then, C&P Telephone Company has (a) installed one 25 pair cable in the conduit connecting the [REDACTED] telephone demarcation point and the modem closet, (b) removed the 25 pair cable and installed two 100 pair cables, but only connected the first 75 pair of wires. C&P needs to return and complete the connections to terminal blocks in the closet, and move wire pairs so they are aggregated according to type on different terminal blocks, if we remain in the present configuration. Estimate C&P will need to spend 2 hours work on this.

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3. PROBLEM:

Several problems have arisen since 18 May 1987 in the installation of AFS equipment in the modem closet and filter room. The severely restricted space in the modem closet allows room for only one person to work on equipment and circuits. Having modem racks in two different locations makes it difficult to trouble shoot circuits which appear in the closet, and are

routed to the filter room for further routing into the computer room. There has been significant heat build up in the closet, and coupled with building cooling problems, there have been heat-related failures of 2 modems so far. There is no room for future expansion of the modems on the racks, which means after IOC we will need to place additional modem racks in yet another closet.

4. PROPOSAL:

We propose that the telephone closet (room 3N04) near the elevators be used to reterminate AFS unclassified circuits and accommodate all 3 modem racks now in use.

a. Availability: [] has verified that room 3N04 has been designated as a telephone company (C&P) room. RECD has verified that no other use is planned for the room. C&P and CONTEL representatives have no objection to our use of the room, since their demarcation point is now on the first floor.

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b. Suitability: Both of the FBIS 100 pair cables are routed through room 3N04, making it extremely easy to cut the cable and reterminate them there. Room 3N04 has a built in mounting board on its wall for cable and terminal box installation. It has two ceiling hot air transfer ducts for ventilation, as well as lights. Most important, it is four feet six inches deep by eleven feet wide, as opposed to the modem closet, which is 15-1/5 inches deep and nine feet wide. There is sufficient room to consolidate all current AFS unclassified modems in this space and still have room for two more racks for expansion.

c. Preparations:

(1) Present UPS power to the modem closet can be extended to room 3N04 in about two hours by electrical contractor under LEC's control, with no interruption of service, by using extension cords to other power sources for interim service.

(2) All present fiber optic cables in the modem closet and filter room are long enough to be re-routed to room 3N04, without adding new cable. Estimate 30 minutes of interruption on current services.

- (3) The three modem racks can be disconnected and moved in less than 30 minutes. Each has three fiber optic cables, a 50 pin (25 pair) plug connected to a terminal box, and a power plug.
- (4) Six Xyvision cables (to Atex) are long enough to be moved in less than 30 minutes. They will require that a new 4 inch conduit, fifteen feet in length, be installed by LEC electrical contractor (prior to the move), to permit rerouting the cable.
- (5) Once the conduit and power has been installed, C&P can cut both 100 foot cables and reterminate them on eight terminal blocks. The primary AUTODIN, dedicated, AFP, and Reuters can be reterminated within a few minutes and brought back into test mode using the 25 pair connector to the first block. The 10 IC lines will be terminated on the second 25 pair junction box. The wire services should be reterminated on the second hundred pair cable. Estimate all our test circuits can be reterminated in less than 30 minutes. All our other circuits have not been terminated yet, but can be terminated to the junction boxes in less than two hours. Estimate C&P will take about two hours to prepare and mount junction boxes prior to cutover.

5. ADVANTAGES OF THE PROPOSED PLAN:

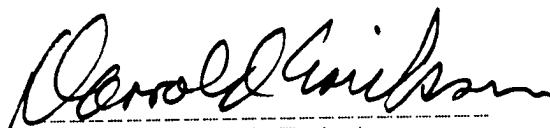
- a. Proposed changes can be made easily with minimum disruption to ongoing tests. No circuits are ready for final test yet.
- b. Take advantage of incomplete C&P work to allow final C&P work at reduced cost.
- c. Does not require new fiber or Xyvision cable, since sufficiently long cable is present.
- d. Small conduit and power additions can be made beforehand at minimum cost, using LEC electrical contractor.
- e. FBIS will be moving modems into a telecommunications - designed closet, with adequate room, lighting, ventilation and not using a clothes closet for technical equipment.

- f. The proposed closet meets all safety standards; the current one is marginal because of space.
 - g. FBIS will be consolidating its wiring and modems for the AFS unclassified system in one location for ease of maintenance and troubleshooting.
 - h. The proposed closet has sufficient room to accommodate at least two more racks of expansion modems for the wire services. There is also room for two or three persons to perform maintenance.
6. DISADVANTAGES OF THE PROPOSED PLAN:

- a. We will need non-secure telephone service in room 3N04. However, a temporary workaround can be achieved using a 25 foot cord from the old location.
- b. This makes another task to be done prior to final testing and acceptance. It needs to be carefully orchestrated to prevent disruption of ongoing SAT or CATEGORY III tests. However, LEC personnel are ready to perform this task, recognizing its clear advantages. The task may be accomplished anytime during normal duty hours, at the discretion of the AFS build installation chief.

7. RECOMMENDATION:

Recommend the proposed plan to relocate all three modem racks to room 3N04 be adapted and implemented during the week of 30 June - 1 July 1987.



Darrold Erickson
GE, SES

CONCUR:

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