August 2, 1957

FILE MEMO: Project 7000

SUBJECT: Tapes for Communication with other Systems
               (J. C. Gibson's memo of July 26, 1957)

The problem presented in the subject memo (preparing 121 character
tapes for 717 operation) is actually a specific case of the general pro-
blem of communicating from 7000 series machines to lesser systems.
For example:

System	Record Size or Modulus
717	any up to 121
722	80 or less
720	a) up to 121
	b) 604 (5 x 120 + 4 record marks)
650-660	10 N + 5 A
750	10 N

Also, 705, 704, 709, etc., systems may be programmed to accept
tape input of precisely X characters, no more or less, and communi-
cation to these may be required in precisely that form. All this leads
to the conclusion that some facilities are needed to permit writing pre-
cisely N bytes (characters) onto tapes from the last word of a record.

The Basic Exchange already has a byte counter associated with each
I/O unit which is automatically set to 7 or 8 at the beginning of a word
and stepped to zero. If it could be set to any arbitrary values less
than this, under program control, then only the first N bytes of a
word would be written onto tape as the value zero would be reached
before the full word was exhausted. Obviously, any byte counters
in the tape would be disabled.

                                                    C. B. Poland III
                                                    C. B. Poland

CBP:pv
cc: Mr. G. A. Blaauw   Mr. R. A. Gregory
     Mr. F. P. Brooks   Mr. J. E. Griffith
     Dr. W. Buchholz   Mr. D. W. Holmes
     Mr. J. D. Calvert   Mr. D. W. Pendery
     Mr. E. F. Codd   Mr. D. W. Sweeney
     Mr. S. W. Dunwell   Mr. H. K. Wild