

Section 4. EDITING AND COMPOSITION

COMPOSITION

Composition is simply the creation of new text material as content for a file.

In the simplest case, the user gives the command "Insert Statement" by typing "is". He then points (using the mouse) to an existing statement; the system displays a new statement number which is the logical successor, at the same level, as the statement pointed to. The user may change the level of this number upward by typing a "u" or downward by typing a "d". The new statement number is changed accordingly by the system.

The user then types the text of the new statement from the keyboard. On the screen, the top part of the text-display area is cleared and characters are displayed here as they are typed. When the statement is finished, the user hits a CA (command accept) button on the keyboard or mouse, and the system recreates the display with the new statement following the one that was pointed to.

New material may also be added to existing statements by means of commands such as Insert Word, Insert Text, and others. Properly speaking, these operations are for modification rather than composition, and are discussed below.

EDITING

A large repertoire of editing commands is provided for file modification. These commands operate upon various kinds of text entities. Within statements, they may operate upon single characters, words, and arbitrary strings of text defined by pointing to the first and last characters.

This set of commands is not restricted to operation within one statement at a time; for example, a word may be moved or copied from one statement to another.

The editing functions also operate at the structural level, taking statements or sets of statements as operands. A number of special entities have been defined for this purpose: for example, a "branch" consists of some specified statement, plus all of its substatements, plus all of their substatements, etc. A branch can be deleted, moved to a new position in the structure, etc.

1b2

COMMANDS	1c
INSERT	1c1
Insert Character	1c1a
LIT is inserted immediately after the selected character	1c1a1
i[nsert] c[haracter] BUG LIT CA	1c1a1a
Insert Word	1c1b
LIT is inserted after the selected word, with an intervening SPACE.	1c1b1
i[nsert] w[ord] BUG LIT CA	1c1b1a
Insert Visible	1c1c
LIT is inserted after the selected visible, with a SPACE between.	1c1c1
i[nsert] v[isible] BUG LIT CA	1c1c1a
Insert Link	1c1d
The link is inserted after the selected visible, with a SPACE between.	1c1d1
i[nsert] l[ink] BUG LIT CA	1c1d1a
LIT and the visible selected by BUG are both required to have the syntax of a valid link (see Section 3 of this document -- 10706).	1c1d2
Insert Number	1c1e
LIT is inserted after the selected visible, with a SPACE between.	1c1e1
i[nsert] n[umber] BUG LIT CA	1c1e1a
Insert Text	1c1f
LIT is inserted after the selected character. This command is identical to the insert character command.	1c1f1

i[nsert] t[ext] BUG LIT CA

1c1f1a

Insert Invisible

1c1g

LIT is inserted immediately after the selected invisible.

1c1g1

i[nsert] i[nvisible] BUG LIT CA

1c1g1a

Insert Statement

1c1h

LIT becomes the text of a new statement or set of statements, following the selected statement at a level determined by the LEVADJ.

1c1h1

i[nsert] s[tatement] BUG \$LEVADJ SPACE LIT CA
NULL CA CDOT

1c1h1a

LEVADJ =

1c1h2

any number of up or down level specifications (u or d respectively) which indicates that the statement to is be inserted x levels higher or lower than the statement specified by BUG. u and d may also be preceded by an integer value indicating the number of levels up or down. This specification may include both u's d's . which cancel out each other on a one-to- one basis.

1c1h2a

CDOT =

1c1h3

"center dot" character means continue insert command. This option allows the user to continue inserting statements at the same and/or other levels. When this delimiter is used, the syntax for inserting subsequent statements is the same as though the user had entered the Insert command up to and including the first CA; the system expects the user to enter a level specification and/or LIT.

1c1h3a

When a new statement is inserted into a file, all statements following the place of insertion are automatically renumbered by the system as necessary.

1c1h4

The maximum number of characters allowed per statement is approximately 2000. Every statement consists of at least one character.

1c1h5

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EDITING AND COMPOSITION

After this command is executed the CM is positioned to the first character of the most recently inserted statement.

1c1h6

DELETE	1c2
Delete Character	1c2a
The selected character is deleted.	1c2a1
d[elate] c[haracter] BUG CA	1c2a1a
Delete Word	1c2b
The selected word is deleted.	1c2b1
d[elate] w[ord] BUG CA	1c2b1a
Delete Visible	1c2c
The selected visible string is deleted.	1c2c1
d[elate] v[isible] BUG CA	1c2c1a
Delete Link	1c2d
The selected link is deleted.	1c2d1
d[elate] l[ink] BUG CA	1c2d1a
Delete Number	1c2e
The selected number is deleted.	1c2e1
d[elate] n[umber] BUG CA	1c2e1a
Delete Invisible	1c2f
The selected invisible is deleted.	1c2f1
d[elate] i[nvisible] BUG CA	1c2f1a
Delete Text	1c2g
The selected text string is deleted from BUG1 to BUG2	1c2g1
d[elate] t[ext] BUG1 BUG2 CA	1c2g1a

Delete Statement

1c2h

The selected statement is deleted. If it has any substatements, the deletion is illegal; however, the statement and its substructure may be deleted with Delete Branch.

1c2h1

d[delete] s[statement] BUG CA CA

1c2h1a

Delete Branch

1c2i

The selected branch (defined by Statement s) is deleted.

1c2i1

d[delete] b[branch] BUG CA CA

1c2i1a

Delete Plex

1c2j

The selected plex (defined by Statement s) is deleted.

1c2j1

d[delete] p[plex] BUG CA CA

1c2j1a

Delete Group

1c2k

The selected group (defined by Statements BUG1 and BUG2) is deleted.

1c2k1

d[delete] g[group] BUG1 BUG2 CA CA

1c2k1a

COPY	1c3
Copy Character	1c3a
The character at BUG2 is copied immediately after the character at BUG1	1c3a1
c[opy] c[haracter] BUG1 BUG2 CA	1c3a1a
Copy Word	1c3b
The word at BUG2 is copied immediately after the word at BUG1	1c3b1
c[opy] w[ord] BUG1 BUG2 CA	1c3b1a
Copy Visible	1c3c
The visible at BUG2 is copied immediately after the visible at BUG1.	1c3c1
c[opy] v[isible] BUG1 BUG2 CA	1c3c1a
Copy Link	1c3d
The link at BUG2 is copied immediately after the visible at BUG1.	1c3d1
c[opy] l[ink] BUG1 BUG2 CA	1c3d1a
Copy Number	1c3e
The number at BUG2 is copied immediately after the visible at BUG2.	1c3e1
c[opy] n[umber] BUG1 BUG2 CA	1c3e1a
Copy Invisible.	1c3f
The invisible at BUG2 is copied immediately after the invisible at BUG1	1c3f1
c[opy] i[nvisible] BUG1 BUG2 CA	1c3f1a

Copy Text	1c3g
The text beginning at BUG2 and ending at BUG3 is copied immediately after the character at BUG1	1c3g1
c[opy] t[ext] BUG1 BUG2 BUG3 CA	1c3g1a
Copy Statement	1c3h
The statement at BUG2 is copied after the statement at BUG1, at a level determined by the LEVADJ.	1c3h1
c[opy] s[tatement] BUG1 BUG2 NULL CA LEVADJ	1c3h1a
Copy Branch	1c3i
The branch determined by BUG2 is copied after the branch determined by BUG1, at a level determined by the LEVADJ.	1c3i1
c[opy] b[ranch] BUG1 BUG2 NULL CA LEVADJ	1c3i1a
Copy Plex	1c3j
The plex determined by BUG2 is copied after the branch at BUG1, at a level determined by the LEVADJ	1c3j1
c[opy] p[lex] BUG1 BUG2 NULL CA LEVADJ	1c3j1a
Copy Group	1c3k
The group determined by BUG2 and BUG3 is copied after the branch at BUG1, at a level determined by the LEVADJ.	1c3k1
c[opy] g[rroup] BUG1 BUG2 BUG3 NULL CA LEVADJ	1c3k1a

MOVE

1c4

Move Character

1c4a

The character at BUG2 is moved so that it appears immediately after the character at BUG1, with no intervening spaces.

1c4a1

m[ove] c[haracter] BUG1 BUG2 CA

1c4a1a

Move Word

1c4b

The word at BUG2 is moved so that it appears after the word at BUG1, with spaces and punctuation as appropriate.

1c4b1

m[ove] w[ord] BUG1 BUG2 CA

1c4b1a

Move Visible

1c4c

The visible at BUG2 is moved so that it appears after the visible at BUG1, with spaces as appropriate.

1c4c1

m[ove] v[isible] BUG1 BUG2 CA

1c4c1a

Move Link

1c4d

The link at BUG2 is moved so that it appears after the visible at BUG1, with spaces as appropriate.

1c4d1

m[ove] l[ink] BUG1 BUG2 CA

1c4d1a

Move Number

1c4e

The number at BUG2 is moved so that it appears after the visible at BUG1, with spaces as appropriate.

1c4e1

m[ove] n[umber] BUG1 BUG2 CA

1c4e1a

Move Text

1c4f

The text beginning at BUG2 and ending at BUG3 is moved so that it appears immediately following the character at BUG1 with no intervening spaces.

1c4f1

m[ove] t[ext] BUG1 BUG2 BUG3 CA

1c4f1a

Move Invisible

1c4g

The invisible at BUG2 is moved so that it appears after the invisible at BUG1.

1c4g1

m[ove] i[nvisible] BUG1 BUG2 CA

1c4g1a

Move Statement

1c4h

The statement at BUG2 is moved so as to follow the statement at BUG1, at a level determined by the LEVADJ. If the statement at BUG2 has any substructure, the move is illegal; however, the it and all of its substructure can be moved with the Move Branch command.

1c4h1

m[ove] s[tatement] BUG1 BUG2 NULL CA
LEVADJ

1c4h1a

Move Branch

1c4i

The branch headed by the statement at BUG2 is moved so as to follow the branch headed by the statement at BUG1, at a level determined by the LEVADJ.

1c4i1

m[ove] b[ranch] BUG1 BUG2 NULL CA
LEVADJ

1c4i1a

Move Plex

1c4j

The plex defined by the statement at BUG2 is moved so as to follow the statement at BUG1, at a level determined by the LEVADJ.

1c4j1

m[ove] p[lex] BUG1 BUG2 NULL CA
LEVADJ

1c4j1a

Move Group

1c4k

The group of branches defined by BUG2 and BUG3 is moved so as to follow the statement at BUG1, at a level determined by the LEVADJ.

1c4k1

m[ove] g[rroup] BUG1 BUG2 BUG3 NULL CA
LEVADJ

1c4k1a

REPLACE

1c5

Replace Character

1c5a

The character at BUG1 is replaced either by the character at BUG2 or by LIT.

1c5a1

r[eplace] c[haracter] BUG1 LIT CA
BUG2

1c5a1a

Replace Word

1c5b

The word at BUG1 is replaced either by the word at BUG2 or by LIT.

1c5b1

r[eplace] w[ord] BUG1 LIT CA
BUG2

1c5b1a

Replace Visible

1c5c

The visible at BUG1 is replaced either by the visible at BUG2 or by LIT.

1c5c1

r[eplace] v[isible] BUG1 LIT CA
BUG2

1c5c1a

Replace Link

1c5d

The link at BUG1 is replaced either by the link at BUG2 or by LIT.

1c5d1

r[eplace] l[ink] BUG1 LIT CA
BUG2

1c5d1a

LIT is not required to have valid link syntax.

1c5d2

Replace Number

1c5e

The number at BUG1 is replaced either by the number at BUG2 or by LIT.

1c5e1

r[eplace] n[umber] BUG1 LIT CA
BUG2

1c5e1a

Replace Text

1c5f

The text beginning at BUG1 and ending at BUG2 is replaced either by the text at BUG3 and ending at BUG4 or by LIT.

1c5fi

```
r[ep]l[ac]e n[um]b[er] BUG1 BUG2 LIT      CA
                        BUG3 BUG4
```

1c5fia

Replace Invisible

1c5g

The invisible at BUG1 is replaced either by the invisible at BUG2 or by LIT.

1c5gi

```
r[ep]l[ac]e i[n]v[is]ible BUG1 LIT      CA
                        BUG2
```

1c5gia

Replace Statement

1c5h

The text of the statement at BUG1 is replaced either by the text of the statement at BUG2 or by LIT.

1c5hi

```
r[ep]l[ac]e s[tat]em[en]t BUG1 LIT      CA
                        BUG2
```

1c5hia

Replace Branch

1c5i

The text and structure of the branch defined by the statement at BUG1 are replaced either by the text and structure of the branch defined by the statement at BUG2 or by LIT.

1c5ii

```
r[ep]l[ac]e b[ranch] BUG1 LIT      CA
                        BUG2
```

1c5iia

If LIT is used, note that the resultant new branch will consist of only one statement.

1c5iib

Replace Plex

1c5j

The text and structure of the plex defined by the statement at BUG1 are replaced either by the text and structure of the plex defined by the statement at BUG2 or by LIT.

1c5ji

```
r[ep]l[ac]e p[lex] BUG1 LIT      CA
                        BUG2
```

1c5jia

If LIT is used, note that the resultant new plex
will consist of only one statement.

1c5j1b

Replace Group

1c5k

The text and structure of the group defined by the
statements at BUG1 and BUG2 are replaced either by
the text and Structure of the group defined by the
statements BUG3 and BUG4 or by LIT.

1c5k1

r[eplace] g[roup] BUG1 BUG2 LIT CA
BUG3 BUG4

1c5k1a

NOTE: the statements at BUG1 and BUG2 must define a
legitimate group; the statements BUG3 and BUG4 must
define another group, and the two groups may not have
any statements in common.

1c5k2

If LIT is used, note that the resultant new group
will consist of only one statement.

1c5k3

TRANSPOSE	1c6
Transpose Character	1c6a
The characters at BUG1 and BUG2 are transposed.	1c6a1
t[ranspose] c[haracter] BUG1 BUG2 CA	1c6a1a
Transpose Word	1c6b
The words at BUG1 and BUG2 are transposed.	1c6b1
t[ranspose] w[ord] BUG1 BUG2 CA	1c6b1a
Transpose Visible	1c6c
The visibles at BUG1 and BUG2 are transposed.	1c6c1
t[ranspose] v[isible] BUG1 BUG2 CA	1c6c1a
Transpose Link	1c6d
The links at BUG1 and BUG2 are transposed.	1c6d1
t[ranspose] l[ink] BUG1 BUG2 CA	1c6d1a
Transpose Number	1c6e
The numbers at BUG1 and BUG2 are transposed.	1c6e1
t[ranspose] n[umbers] BUG1 BUG2 CA	1c6e1a
Transpose Invisible	1c6f
The invisibles at BUG1 and BUG2 are transposed.	1c6f1
t[ranspose] i[nvisibles] BUG1 BUG2 CA	1c6f1a
Transpose Text	1c6g
The characters at BUG1 and BUG2 delimit a string of text; The characters at BUG3 and BUG4 delimit a second string. The two strings are transposed.	1c6g1
t[ranspose] t[ext] BUG1 BUG2 CA BUG3 BUG4 CA	1c6g1a

Transpose Statement 1c6h

The text contents of the statements at BUG1 and BUG2 are transposed. 1c6h1

t[ranspose] s[tatement] BUG1 BUG2 CA 1c6h1a

Transpose Branch 1c6i

The text and structure of the branches determined by the statements at BUG1 lex BUG2 are transposed. 1c6i1

t[ranspose] b[ranch] BUG1 BUG2 CA 1c6i1a

Transpose Plex 1c6j

The text and structure of the plexes determined by the statements at BUG1 and BUG2 are transposed. 1c6j1

t[ranspose] p[lex] BUG1 BUG2 CA 1c6j1a

Transpose Group 1c6k

The statements BUG1 and BUG2 determine a group; the statements BUG3 and BUG4 delimit a second group. The text and structure of the two groups are transposed. 1c6k1

t[ranspose] g[roup] BUG1 BUG2 CA BUG3 BUG4 CA 1c6k1a

BREAK AND APPEND

1c7

Break Statement

1c7a

A statement is "broken" at a specified location causing two separate statements.

1c7a1

b[reak statement] BUG LEVADJ NULL CA
SP LIT

1c7a1a

The statement indicated is broken after the visible selected by BUG into two statements. The LEVADJ adjusts the level of the new statement made up of the last part of the original statment. The new statement follows the original statement according to the LEVADJ specification, if any.

1c7a2

**Any invisible characters that immediately follow the selected visible disappear in the process. The LIT, if any, is inserted at the beginning of the new statement.

1c7a3

Append Statement

1c7b

The text of one statement to the end of another statement.

1c7b1

a[ppend statement] BUG1 BUG2 LIT CA
NULL

1c7b1a

First the LIT, if any, is appended to the end of the statement at BUG1. Then text of the statement at BUG2 is then appended to BUG1, and BUG2 is deleted.

1c7b2

If the statement specified by BUG2 has any substructure, the substructure is moved as a plex so that it immediately follows at one level lower the statement at BUG1 (and precedes any substructure associated with the original statement at BUG1).

1c7b3

SET

1c8

Set Modes

1c8a

this command establishes modes according to which subsequent set commands will affect the case of characters, words, etc.

1c8a1

x[set] m[odes] l[ower] CA
c[apital]

1c8a1a

the modes remain the same until you use set modes again.

1c8a2

Set Character

1c8b

The selected character is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8b1

x[set] c[haracter] BUG CA

1c8b1a

Set Word

1c8c

The selected word is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8c1

x[set] w[ord] BUG CA

1c8c1a

Set Visible

1c8d

The selected visible is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8d1

x[set] v[isible] BUG CA

1c8d1a

Set Link

1c8e

The selected link is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8e1

x[set] l[ink] BUG CA

1c8e1a

Set Invisible

1c8f

The selected invisible is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8f1

x[set] i[nvisible] BUG CA

1c8f1a

Set Statement

1c8g

The selected statement is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8g1

x[set] s[tatement] BUG CA

1c8g1a

Set Text

1c8h

The selected text is set to the mode specified in the most previous Set Modes command. If no Set Modes command has been used, the default mode is "capital."

1c8h1

x[set] t[ext] BUG1 BUG2 CA

1c8h1a

FREEZE

1c9

Freeze Statement

1c9a

The specified statement is "frozen", i.e. tagged by the system so that when the "show frozen statements" VIEWSPEC is used, the statement will appear at the top of the display screen and may be referenced for any editing purpose.

1c9a1

f[reeze] s[tatement] BUG NULL CA
VIEWSPEC

1c9a1a

The VIEWSPEC option enables the user to specify the view of the frozen statement when displayed.

1c9a2

Frozen statements are generally used to enable the user to work with two parts of the same or different files at the same time.

1c9a3

VIEWSPECS are discussed in Section 5 of this document.

1c9a4

Release Statement

1c9b

The selected statement is unfrozen. The statement specified may be in the frozen area of the display or in the normal viewing area.

1c9b1

f[reeze statement] r[elease] BUG CA

1c9b1a

Release All

1c9c

All frozen statements are unfrozen.

1c9c1

f[reeze statement] a[release all] CA

1c9c1a

EXECUTE ASSIMILATE

1c10

The execute assimilate command causes the system to copy all or part of another DNLS file and incorporate it with the current file at a specified location in the current file.

1c10a

```
e[ecute] a[ssimilate] s[tatement] CA BUG...
                        b[ranch
                        p[lex]
                        g[roup]          BUG BUG
...LEVADJ CA VIEWSPECS CA
```

1c10a1

The first BUG specifies the statement after which to copy the assimilated entity. The second [and, for groups, third] BUG specifies which particular structural entity to copy. LEVADJ specifies the level relative to the first statement at which to start inserting. VIEWSPECS select the actual content of the assimilated entity.

1c10b

A BUG is a bug selection, a typed in statement number or statement name, or a link.

1c10c

Note that to assimilate from one file to another in DNLS, it is necessary to have the appropriate statements displayed on the screen before the command is commenced. This may be done via split screen or frozen statements.

1c10d

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Section 5. VIEW CONTROL OPERATIONS

VIEWSPECS

INTRODUCTION

In DNLS the user is at all times "viewing" a file. Certain parameters are in effect at all times which control the precise nature of the view a user has of a file. These parameters are called viewspecs and several of the DNLS commands documented in this Reference Guide allow their specification as part of the execution of the command.

Generally speaking, the most common and important use of viewspecs is to cause some of the statements in the file (or part of the file) to be ignored (not displayed) for various reasons. Thus, for example, certain important viewspecs have the effect of ignoring all statements that are below a specified level in the hierarchical file structure.

When the user first enters DNLS, all of the viewspecs are automatically preset to standard values. Whenever the user issues a viewspecs command or certain others as noted in this document, he has the option of changing any of the viewspecs by typing special one-letter codes.

VIEWSPEC CONTROL

VIEWSPECs may be controlled in four ways; during certain commands such as Jump or Load, with the View Set command, in a link or from the keyset in Case 3. (The viewspecs may also be set from the keyboard with the right-hand and center buttons on the mouse down, i.e. in Case 3 position.)

During the Jump and Load commands (and a few others), there is a point where the VIEWSPECs in the upper left-hand corner of the display become large, indicating that all VIEWSPECs are accessible to change. They may then be changed by typing the codes in from the keyboard or keyset as upper- or lower-case letters.

The View Set command may be used to achieve exactly the same effect without doing anything else. 1a2a2

A link may contain a string of VIEWSPEC codes, preceded by a colon, as the last element in the parentheses. 1a2a3

Case 3 may be used to set all of the VIEWSPECs that are not capital letters, as shown in the table of keyset codes. This may be done at any time. 1a2a4

Note that the chord for each VIEWSPEC corresponds to the appropriate lower-case letter in Case 0. 1a2a4a

After VIEWSPECs have been given in this fashion, it is necessary to hit Chord 00110, Case 3 for "new view," (or otherwise cause the display to be recreated), before the new VIEWSPECs will become effective. 1a2a4b

VIEWSPEC DEFINITIONS 1a3

INTRODUCTION 1a3a

There are two types of viewspecs. The first type includes the Level and Line specifications whose value may range from 1 to ALL. 1a3a1

The remaining viewspecs are ON/OFF switches for various DNLS features. Each is controlled by a pair of one-letter codes, one of which turns the feature ON and the other of which turns it OFF. Note that some of these codes are capital letters; it is important to distinguish between capital and lower-case viewspec codes, because they have different effects. 1a3a2

LEVELS VIEWSPEC 1a3b

The Levels viewspec specifies how many levels of the file structure are to be displayed. Initially, level is set to its standard value of ALL. 1a3b1

DNLS displays only statements whose level is equal to or higher than the current level specification. This viewspec also affects the output in the Output Device command and restricts the effect of the Substitute and Assimilate commands. 1a3b2

d sets L to 1
c sets L to ALL
a sets L to L-1
b sets L to L+1
e sets L relative

1a3b2a

(i.e. L is set to the level of the first statement to be displayed by the command, i.e. the statement specified in the command.) For example, if a "jump to item" specified a statement whose statement number was "5a2", only first, second, and third level statements would be displayed.

1a3b2a1

where L = current level specification

1a3b3

Note: it is possible to set the Levels viewspec to 0 by use of the a viewspec. However, this setting is meaningful only if the origin statement is displayed. When the Levels viewspec is in effect, only the origin statement is displayed.

1a3b4

LINES VIEWSPEC

1a3c

The lines viewspec is a value from 1 to ALL which allows the user to specify how many lines of each statement are to be displayed. The lines viewspec is preset to ALL; if the user changes it to, for example, 3, only the first three lines of any statement will be displayed.

1a3c1

The codes for setting the lines viewspec are as follows:

1a3c2

t sets T to 1
s sets T to ALL
q sets T to T-1
r sets T to T+1

1a3c2a

LINES AND LEVELS VIEWSPECS

1a3d

In addition, to the viewspecs for lines and levels there are two extremely useful codes that affect both levels and lines:

1a3d1

x sets levels and lines to 1
w sets levels and lines to ALL

1a3d1a

STATEMENT NUMBERS ON/OFF (Codes m/n) 1a3e

Normally, when a statement is displayed, its statement number is not printed at the beginning of the first line. Statement numbers may be seen by using the viewspec "m". 1a3e1

m turns statement numbers ON
n turns them OFF. 1a3e1a

The standard setting for this viewspec is OFF (n). 1a3e2

STATEMENT NAMES ON/OFF (Codes C/D) 1a3f

Normally, when a statement is displayed, its statement name (if any) is visible. 1a3f1

C turns statement names ON
D turns them OFF 1a3f1a

The standard setting for this viewspec is ON (C). 1a3f2

BLANK LINES BETWEEN STATEMENTS ON/OFF (Codes y/z) 1a3g

The viewspec code "y" causes DNLS to put blank lines between statements. This makes the display more readable. 1a3g1

y turns blank lines ON
z turns them OFF. 1a3g1a

The standard setting for this viewspec is OFF (z). 1a3g2

INDENTATION OF STATEMENTS ACCORDING TO LEVEL ON/OFF (Codes A/B) 1a3h

DNLS normally indents according to level when it displays statements. This can be suppressed by the viewspec "B", causing all statements to be displayed flush at the left margin. 1a3h1

A turns indenting ON
B turns indenting OFF 1a3h1a

The standard setting for this device is ON (A). 1a3h2

CREATE NEW VIEW (Code F)

1a3i

The VIEWSPEC code f has a special effect; instead of setting a parameter, it acts as a "command," causing the display to be recreated and putting into effect any parameter changes that have been made since the last time the display was recreated.

1a3i1

AUTOMATIC DISPLAY RECREATION (Codes u/v)

1a3j

Certain commands cause the display to be recreated when executed. The user may defer display recreation (i.e., until the user issues a command which specifically recreates the display, such as jump to item, or issuing the "f" viewspec) by using the Viewspec "v". This feature is useful when the user is performing a repetitious series of insert statements, Xset commands, etc. However, caution should be exercised when using this viewspec as the user may unintentionally affect statements previously moved, inserted, etc. while this viewspec is in effect.

1a3j1

u causes the display to be automatically recreated 1a3j1a

v inhibits automatic display recreation 1a3j1b

The normal setting is u (recreate display) 1a3j1c

DISPLAY MODE BRANCH-ONLY/NORMAL/PLEX-ONLY (Codes g/h/i)

1a3k

When the display mode is BRANCH-ONLY, DNLS looks for the end of the branch defined by the display-start statement. If it comes to the end of the branch, it ends the display there. Thus, in effect, it displays only one branch (of course, the branch may not fit on the display, in which case the BRANCH-ONLY mode makes no difference for that view).

1a3k1

Similarly, when the display view is PLEX-ONLY the display is restricted to the plex defined by the display-start statement.

1a3k2

Normally, DNLS keeps putting more statements on the display until the screen is full or the end of the file is reached.

1a3k3

g sets view to BRANCH-ONLY

1a3k3a

h sets it to NORMAL 1a3k3b

l sets it to PLEX-ONLY 1a3k3c

The default setting is normal (h). 1a3k3d

This viewspec affects Output Device, Output Quickprint, Output Sequential File, and Substitute commands. 1a3k4

FROZEN STATEMENT DISPLAY ON/OFF (Codes O/P) 1a3l

If this feature is ON, any statements that have been frozen with previous "Freeze" commands (see Section 4 -- 10707,) are displayed at the top of the screen. Below the last frozen statement is a dotted line, followed by as much of the normal display as will fit. 1a3l1

o turns frozen statements ON 1a3l1a

p turns frozen statements OFF. 1a3l1b

The standard setting is OFF (p). 1a3l1c

VIEW SET COMMAND 1a3m

The View Set command enables the user to use the viewspec features of DNLS at any time (i.e. besides during link, output device, jump to, substitute, etc. operations). 1a3m1

v[iew set] VIEWSPECS CA 1a3m1a

where VIEWSPECS = any series of valid viewspec codes 1a3m2

Viewspecs activated by the View, Jump to, etc. commands remain in effect until deactivated by their opposites in subsequent commands, or until the user leaves DNLS. 1a3m3

VIEWSPEC DISPLAY AREA AND DEFAULTS VIEWPSECS

1a4

The current settings of six VIEWSPECs are displayed on two lines in the upper left-hand corner of the screen.

1a4a

The top line shows "L" and "T", which appear either as numbers or as the word "ALL."

1a4a1

The second line shows four VIEWSPECs:

1a4a2

g, l, or h for branch-only, plex only, or normal mode

1a4a2a

i, j, or k for content-analyzer on, off, or reversed

1a4a2b

The use of content analyzer patterns and the viewspecs which effect them are described in the L10 Programming Guide (see -- 9246,).

1a4a2b1

m or n for statement numbers on or off

1a4a2c

u or v for recreate or defer recreate

1a4a2d

MULTIPLE DISPLAY AREAS

1b

Ordinarily, in DNLS, the user has one "view" of a file. There are a set of commands which, however, enable the user to expand the number of views he may have of the same and/or other files. This feature is governed by the Goto Display area subsystem which consists of the following command set.

1b1

GOTO DISPLAY AREA CONTROL

1b1a

This command allows the user to execute commands which control the number of views the user may have of files.

1b1a1

g[oto] d[isplay area control]

1b1a1a

Once the user enters the sequence of characters "gd", DNLS expects any of the following subcommands.

1b1a2

HORIZONTAL SPLIT

1b1a3

This command splits the display horizontally.

1b1a3a

h[orizontal split] BUG CA

1b1a3a1

The display is split where the BUG occurred horizontally (into an upper and lower segment) at the bugged location moving the image of the original display area to the upper or lower segment depending on whether the cursor is above or below the bugged position when the final CA is input.

1b1a3b

No display area will be created which is smaller than two lines by 20 columns (using the character size of the original display area).

1b1a3b1

VERTICAL SPLIT

1b1a4

This command splits the screen vertically.

1b1a4a

v[ertical split] BUG CA

1b1a4a1

The display area is split where the BUG occurred vertically (into a left and right segment) at the bugged location moving the image of the original display area to the left or right segment depending on whether the cursor is to the left or right of the bugged position when the final CA is input.

1b1a4b

No display area will be created which is smaller than two lines by 20 columns (using the character size of the original display area).

1b1a4b1

MOVE BOUNDARY

1b1a5

This command enables the user to move view area boundaries.

1b1a5a

m[ove boundary] BUG1 BUG2 CA

1b1a5a1

The selected boundary (BUG1) is moved to the new position (BUG2). A boundary will not be moved passed a boundary of a neighbor. A boundary is moved for all display areas for which it is a boundary. Any resulting display area which is smaller than two lines by 20 columns will be deleted.

1b1a5b

FORMAT DISPLAY AREA/CHARACTER SIZE

1b1a6

This command allows the user to change the image size of the character on the display.

1b1a6a

f[ormat display area] c[haracter size] NUMBER CA

1b1a6b

The current character size of the display area which currently contains the cursor is displayed, and the user may type a number (0, 1, 2, 3) for a new character size. The final CA causes the character size to be changed. The horizontal and vertical increments are automatically adjusted. Different display areas may simultaneously have different character sizes.

1b1a6c

CLEAR DISPLAY AREA

1b1a7

The bugged display area is cleared, i.e. the image is erased, the return and file return rings are released, and the association of a file with that display area is removed. The display area itself is not deleted.

1b1a7a

c[lear display area] BUG CA

1b1a7a1

One may freely edit and jump using several display areas. The position of the cursor is used to resolve ambiguities.

1b2

For example, If one executes a Jump command, the position of the cursor when the final command accept is entered determines in which display area the new image is to appear.

1b2a

Also, If one changes viewspecs using the leftmost two buttons of the mouse, the viewspecs of the display area containing the cursor when the buttons go down are used as the initial values and are displayed in the viewspec area. When the buttons are released, the display area containing the cursor receives the new viewspecs.

1b2b

SSRI-ARC 19-JUN-72 10:46 10708

SRI-ARC 21 JUN 72 10708

VIEW CONTROL OPERATIONS

(J10708) 19-JUN-72 10:46; Title: Author(s): S.R.I. - Augmentation Research Center/SSRI-ARC; Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White, Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: MFA; Origin: <AUERBACH>J10708.NLS;2, 16-JUN-72 17:23 MFA ;

STATUS NOTE FOR NLS PROGRAMMERS

I have restored the NIC-NLS directory to its state as of Monday night, fixed Update old in it, loaded it, checked it out (and checked out the Output Processor), and brought it up as the running system. Hopefully, we will be able to deal with the problems in the REL-NLS system prematurely brought up last night within the next few days. HGL

1

STATUS NOTE FOR NLS PROGRAMMERS

(J10710) 7-JUN-72 23:00; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: James G. Mitchell, L. Peter Deutsch, Diane S. Kaye, Don I.
Andrews, Walt Bass, William S. Duvall, Mary S. Church, J. D. Hopper,
Charles H. Irby, Harvey G. Lehtman, John T. Melvin, Bruce L. Parsley,
William H. Paxton/NPG; Sub-Collections: SRI-ARC NPG; Clerk: HGL;

FIXED NLS (WE HOPE)

We have backed up to a reliable system and fixed Update old in it. We are working on the new system prematurely brought up last night and hope to have it up soon. Sorry for the inconvenience.

HGL

1

FIXED NLS (WE HOPE)

(J10711) 7-JUN-72 23:02; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: Ralph Prather, James E. White, Augmentation Research
Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin
E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H.
Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De
Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard
W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: HGL;

Hurrah for LPD

Peter, I was delighted to read your journal entry on an NLS programming language. Ever since I arrived at ARC I have felt that the goal of building an intellectual workshop was only going to be successful if NLS programming capabilities existed so that people could implement their own commands, subsystems etc without system programmers; in fact I think it should be a major goal to be able to do this. This capability should at some level be easy to use by novices as well as those with more programming experience. One aspect I don't remember seeing in your writeup was a discussion of debugging aids.

1

Hurrah for LPD

(J10712) 8-JUN-72 9:00; Title: Author(s): Richard W. Watson/RWW;
Distribution: James G. Mitchell, L. Peter Deutsch, Diane S. Kaye, Don I.
Andrews, Walt Bass, William S. Duvall, Mary S. Church, J. D. Hopper,
Charles H. Irby, Harvey G. Lehtman, John T. Melvin, Bruce L. Parsley,
William H. Paxton/NPG; Sub-Collections: SRI-ARC NPG; Clerk: RWW;

Section 6. DNLS/EXEC

1

INTRODUCTION

1a

The only EXECUTIVE command documented here is the DNLS access command. All other commands of interest to the DNLS user are documented in the TNLS User Guide (see -- 7470,).

1a1

ACCESSING DNLS

1b

In order for the user to enter DNLS, he must use the EXECUTIVE command DNLS.

1b1

```
@nls CR
[id:] IDENT CR
[device:] d[isplay]
```

1b1a

(J10713) 19-JUN-72 10:47; Title: Author(s): S.R.I. - Augmentation Research Center/SSRI-ARC; Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White, Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: MFA; Origin: <AUERBACH>J10713.NLS;3, 16-JUN-72 17:26 MFA ;

i have address for bruce if anyone is interested in writing to
him

1

(J10714) 8-JUN-72 15:45; Author(s): Kenneth E. Victor/KEV;
Distribution: Ralph Prather, James E. White, Augmentation Research
Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin
E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H.
Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De
Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard
W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;

More Comments on "Programmable NLS"

Hurrah to both RWW (10712,) and LPD (10709,) for their comments on "Programmable NLS". I have just spent several months building a "Catalog Production Processor" which functions in the manner they speak of re designing user commands and subsystems -- i.e., almost all the "work" of the CPP is done using basic NLS "commands" operating on normal NLS files. Most of the work I had to do to build the CPP was digging into NLS for the systems programs which do things like Execute Assimilate, Jump to Link, Update File, Output Device Printer, etc., etc. -- and diddling these system programs so that they would function smoothly in an off-line environment (particularly how error messages and conditions are handled). If the dream environment, LPD and RWW (and WLB) are talking about had existed, creating the CPP would have been a week or two's work for a skilled user rather than several months' work for a systems programmer. Extrapolate this estimate to the many other areas where we need new user systems, and the value of having a Programmable NLS"" should become apparent. I would like to suggest that we invite LPD to join our SEAS Planning Team so as to be able to effectively input his ideas into the SEAS Planning Process, and I will be glad to share with SEAS any observations which they can elicit from me regarding my experiences in building the Catalog Production Processor.

More Comments on "Programmable NLS"

(J10715) 8-JUN-72 17:40; Title: Author(s): Walt Bass/WLB;
Distribution: L. Peter Deutsch, Ralph Prather, James E. White,
Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul
Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R.
Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt
Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby,
Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton,
Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara
E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor,
Donald C. Wallace, Richard W. Watson, Don I. Andrews/LPD SRI-ARC;
Sub-Collections: SRI-ARC; Clerk: WLB;

Resource Allocation: A Study of Present Distribution of ARC Staff
Time by Activity for Use at the Next PERC Meeting

To: RWW CHI WHP MDK PR WLB (PERC)

1

To aid our effort in making an initial cut at allocating ARC's people resources, I have assembled a matrix showing peoples' estimates of the way they are spending (or are about to spend) their time on projects and overhead.

2

I was considering making a suggested plan of my own to give to you (PERC) at the same time, but have decided to pass this attached initial view (10461,) on to you early enough before the meeting (6/14?) so that each of us can get some independent ideas about how to re-allocate our resources - as needed and as we agree.

3

The distribution in (10461,) undoubtedly contains some bad guesses about how some of our time is really spent now, but I feel that it is close enough to use as a starting point.

4

The amount of overhead reflected in the estimates gives a time sold (on project) level of about 84% - on an hours basis. This may be closer to 81% on a dollars-sold basis because of FRAMAC and PERC effects. The ARC budget level is set at 78% (of \$). Therefore, some of the project efforts may be reduced - but not much.

4a

JCN 8-JUN-72 18:39 10716

Resource Allocation: A Study of Present Distribution of ARC Staff
Time by Activity for Use at the Next PERC Meeting

(J10716) 8-JUN-72 18:39; Title: Author(s): James C. Norton/JCN;
Distribution: Douglas C. Engelbart, Walt Bass, Charles H. Irby, Michael
D. Kudlick, James C. Norton, William H. Paxton, Paul Rech, Richard W.
Watson/PERC; Sub-Collections: SRI-ARC PERC; Clerk: JCN;
Origin: <NORTON>PERCMEMO.NLS;1, 8-JUN-72 18:36 JCN ; HJOURNAL="
JCN 9 JUN 72 4:46AM 10716";

RWW JBN 15-JUN-72 15:00 10720
Network Information Specialist: Job Description

JOB REQUIREMENTS:

1

Education:

1a

BA or BS in English or Science

1a1

Experience:

1b

One year or more in technical information work, as a writer, librarian, or information specialist.

1b1

Some experience with computers.

1b2

Some experience in a research organization.

1b3

JOB DESCRIPTION:

2

Will be responsible for acquiring and maintaining the NIC Functional Documents. The information is to be acquired by phone or survey.

2a

Will be responsible for writing and editing this information as appropriate for a given document.

2b

Will be responsible for indexing of some documents.

2c

Will be responsible for accuracy and appearance of the finished documents where this is in our control.

2d

Will be responsible for learning the appropriate ARC tools to perform these tasks.

2e

This person should have typing skills, but be more than a typist

2f

This person will probably also have to design and document procedures for working with the Functional Documents.

2g

RWW JBN 15-JUN-72 15:00 10720

Network Information Specialist: Job Description

(J10720) 15-JUN-72 15:00; Title: Author(s): Richard W. Watson,
Jeanne B. North/RWW JBN; Distribution: Douglas C. Engelbart, Walt Bass,
Charles H. Irby, Michael D. Kudlick, James C. Norton, William H. Paxton,
Paul Rech, Richard W. Watson, Douglas C. Engelbart/PERC DCE;
Sub-Collections: SRI-ARC PERC; Clerk: JCN;
Origin: <NORTON>SPEC.NLS;1, 12-JUN-72 12:44 JCN ; HJOURNAL="RWW
JBN 16 JUN 72 5:29AM 10720";

A SAMPLE JOURNAL SESSION

THIS IS A SAMPLE

REK2 9-JUN-72 11:30 10721

A SAMPLE JOURNAL SESSION

(J10721) 9-JUN-72 11:30; Title: Author(s): Robert E. Kahn/REK2;
Distribution: Robert E. Kahn/REK2; Sub-Collections: NIC; Clerk: REK2;

JBL 9-JUN-72 12:24 10722

arrival

Julie, expect me home at 10:37 on u.a. flite 146. see you tomorrow.

1

JBL 9-JUN-72 12:24 10722

arrival

(J10722) 9-JUN-72 12:24; Title: Author(s): Joel B. Levin/JBL;
Distribution: Julie B. Moore/JBM; Sub-Collections: NIC; Clerk: JBL;

TEST

BBN-TENEX LETTER

TEST

(J10723) 9-JUN-72 13:41; Title: Author(s): Robert E. Kahn/REK2;
Distribution: Bolt Beranek and Newman Inc. - TENEX Group/BBN-TENEX;
Sub-Collections: NIC BBN-TENEX; Clerk: REK2;

NEW superwatch commands: PRINT GRAPH and PRINT SCHEDULER
PARAMETERS

There is a graph-plotting command in SUPERWATCH now:	1
The command is Print Graph (ca):	2
Specify:	2a
Time interval? (respond Y or N)	2a1
IF yes, system will request two times of day, hours and minutes.	2a1a
Setting the time interval results in data points being taken only from the statistics collected in that interval.	2a1b
The stat. input file	2a2
The output file for listing	2a3
# horizontal characters = (use 100 for LPT:)	2a4
# lines = (use 50 for LPT:)	2a5
Distribution or Time plot? (respond with D or T)	2a6
Both options query with the following and continue until "done"	2a6a
parameter: (respond with name, e.g. %U, IOW, etc.)	2a6a1
default scaling? (respond with Y or N, usually Y)	2a6a2
A NO results in further questions about min and max values for the axes.	2a6a2a
done? (respond with N to continue with another parameter)	2a6a3
Action:	2b
A graph is printed for each specified parameter. Data points are taken from the stat. file (limited to the time interval if specified) and used to produce a character plot on the output file. The number of horizontal characters and lines determine the size of the plot. The number of horizontal characters is limited to 120.	2b1

NEW superwatch commands: PRINT GRAPH and PRINT SCHEDULER
PARAMETERS

A time plot is a graph of the value of the parameter vs. time.

2b1a

A distribution plot results is a y axis of percentage of occurrences (of a value of the parameter), and an x axis of possible values of the parameter.

2b1b

Default scaling is normally used. The axes are set up so as to include all data points.

2b2

Special scaling can be used to "focus" in on part of a graph. Points that fall off the left, right, and bottom of the plot are ignored. Points that fall off the top are indicated by "†". Read the scale values from a "default scaling" graph to determine how to answer the interrogation about x and y min and max values.

2b3

Also, Print Scheduler parameters is a simple command that will respond NORMAL or NOT NORMAL as per current scheduler setting. NOT NORMAL means that either compile time or intermediate mode is invoked.

3

NEW superwatch commands: PRINT GRAPH and PRINT SCHEDULER
PARAMETERS

(J10724) 9-JUN-72 14:54; Title: Author(s): Don I. Andrews/DIA;
Distribution: Ralph Prather, James E. White, Augmentation Research
Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin
E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H.
Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De
Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard
W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: DIA;
Origin: <ANDREWS>DOCGRAPH.NLS;3, 9-JUN-72 14:51 DIA ;

INVITATION TO USE THE NEW 3M READER-PRINTER

1

The 3M Reader-Printer for the use of ARC has been installed in the Reading Area, next to the New Periodicals shelf. Directions for its use for reading and for printing are on the machine, and are foolproof.

2

The collection of documents in microprint is in the grey filebox on the table with the Reader. If you remove one to read, please put it back in the front of the box.

3

At present, we have very few documents in fiche which we don't have in fullsize hardcopy; the policy is to acquire all new documents in both forms if possible, so that after initial use the fullsize can be deleted. A few documents of high cost and marginal interest have been obtained in fiche only, and the ARC New Document Bulletin will henceforth note these.

4

When the Printer runs out of paper, BER and CXP know what to do.

5

(J10725) 9-JUN-72 15:17; Title: Author(s): Jeanne B. North/JBN;
Distribution: Ralph Prather, James E. White, Augmentation Research
Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin
E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H.
Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De
Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard
W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: JBN;
Origin: <NORTH>BLANK.NLS;2, 10-MAY-72 13:04 JBN ;

NBS RESPONSE TO NIC 10594

NBS RESPONSE TO 10594

THE FOLLOWING INFORMATION IS IN RESPONSE TO NIC 10594.

THE LEVEL AND LINE OF THE REMARKS COINCIDE WITH THAT OF
THE
QUESTIONS IN 10594.

NATIONAL BUREAU OF STANDARDS

PDP-11

WASHINGTON, D.C. 20234
ATTN: MRS. SHIRLEY WATKINS, B-216, TECHNOLOGY

LOCAL PERSONNEL

MRS. SHIRLEY WATKINS

(301) 921-2601 (HOTLINE--(301) 921-3272)

ROB ROSENTHAL OR DON RIPPY

NO OPERATOR REQUIRED FOR TIP

NO SPECIAL FEATURES

FIRST TUESDAY OF THE MONTH.

PORT NUMBERS ARE 40-49, INCLUSIVELY. THE PHONE NUMBER
OF THE TIP IS 948-5951, WITH ROTARY LINES.

SWW 12-JUN-72 11:41 10726

NBS RESPONSE TO NIC 10594

(J10726) 12-JUN-72 11:41; Title: Author(s): Shirley W. Watkins/SWW;
Distribution: David H. Crocker/DHC; Sub-Collections: NIC; Clerk: SWW;
Origin: <NBS-TIP>SWW.NLS;5, 12-JUN-72 11:34 SWW ;

Request for Idents

Gino,

1

Please give me a list of everyone you know from Ames who is going to come to the June TNLS Course at SRI.

2

I will need their names (first, last and middle initial if any) and phone numbers.

3

You can phone me at 326-6200 ext 2469 or send me a Journal message.

4

Thank you.

5

Barbara Row (BER)

6

Request for Idents

(J10727) 12-JUN-72 13:26; Title: Author(s): Barbara E. Row/BER;
Distribution: Gino Pucine, Dirk H. van Nouhuys/GINO DVN;
Sub-Collections: NIC; Clerk: BER;
Origin: <JOURNAL>GINO.NLS;1, 12-JUN-72 13:23 BER ;

Suggested Action Items for EMC

What is the status of the Delivery Team's recommendations to ARC on Disk and Drum storage changes? If we are going to get additional RP02's, we should do so soon, so that it's worth DEC's while in terms of lead time to procure and length of contract, and worth ARC's while in terms of getting adequate drum back-up and increased disk capacity.

As a separate item, I request that EMC arrange to move WSD's phone (which is directly connected to the SRI system, i.e., reachable through the SRI internal dialing system) to DIA's premises as soon as possible.

1

Suggested Action Items for EMC

(J10736) 13-JUN-72 10:37; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: William H. Paxton, Richard W. Watson, James C. Norton/EMC;
Sub-Collections: SRI-ARC EMC; Clerk: MDK;
Origin: <KUDLICK>DUMMY.NLS;3, 13-JUN-72 9:48 MDK ;

update to program communication flags

Usage of Program Communication Flags

1

Flag #0 (password JLOCK): Used to control Journal access.

1a

When set, prevents anyone new from entering the Journal, but allows persons already using it to continue.

1a1

Flag #1 (Password JBFIL): Indicates a Bad File in the Journal System Files.

1b

This flag may be set either by the Journal, or by slinker.

1b1

It indicates that an error was found in one of the Journal files, and immediately stops any further use of the Journal.

1b2

Persons currently using the Journal are bombed out to the TNLS command parser with the message: Global Journal File System Error--Call NIC Center.

1b2a

The flag will always be reset by running recovf, and it will be additionally reset by any successful running of slinker.

1b3

Note that slinker May also set this flag if it finds a bad file.

1b3a

Recovf should be used for recovering.

1b3b

Flag #2 (Password SLNKR): Controls the automatic startup of Recovf (slinker, OLJDEL).

1c

If on, NLS will not function as NLS, but will reset it and start up recovf (including logging in as background) instead.

1c1

If found on and NLS is logged in, NLS executes an error after resetting it.

1c2

Flag #3 (Password NLSUT): Controls the automatic startup of NLS utility. .

1d

If on, NLS will not function as NLS, but will reset it and start up Utility (including logging in as background) instead.

1d1

If found on and NLS is logged in, NLS executes an error after resetting it.

1d2

update to program communication flags

Flag #4 (password OPNLK): Used by the routine (IOCTL, openlock) for preventing race conditions. 1e

Flag #5 (password EXPFG): If TRUE, SLINKER and NLSUTILITY will expunge the directories under which they are running. If FALSE, the expunge will not be executed. 1f

Flag # 6 (Password WMEAS) If on, NLS will write some measurement stuff out on a file when Execute Quit is done. 1g

Flag # 7 (Password IDLOK): A Flag which, if set, will not allow entry into the identification system. 1h

Flag #8: (Password AUTOJ) 1i

Whenever Checkdisc runs, it turns this flag on. 1i1

After it has completed running and there were no errors, it turns it off. 1i2

If this flag is on, no auto-startup jobs will be started. 1i3

Flag #9: (Password CHKJ0) 1j

Whenever Checkdisc runs, it turns this flag on. 1j1

After it has completed running, it turns it off. 1j2

If this flag is on, no jobs will be started. 1j3

Flag #10 (Pasword TLOAD) 1k

This flag is only on when the disk is being reloaded from mag tape. 1k1

It is used by the disk allocator (as modified by DIA). The allocator selects pages from the center of the packs normally, but when loading from tape, pages near the edges of the packs are used. 1k2

update to program communication flags

(J10738) 13-JUN-72 11:04; Author(s): Don I. Andrews/DIA;
Sub-Collections: SRI-ARC; Clerk: DIA;
Origin: <ANDREWS>FLAGS.NLS;2, 13-JUN-72 11:02 DIA ;
(J9446) 7-MAR-72 16:22; .HJOURNAL="KEV 7-MAR-72 16:22 9446";
Title: Author(s): Kenneth E. Victor/KEV; Distribution: Kay F.
Byrd, Ralph Prather, James E. White, Augmentation Research
Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael D.
Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson,
Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass,
Mary S. Church, William S. Duvall, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H.
Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James
C. Norton, Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake
Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys,
Kenneth E. Victor, Donald C. Wallace, Richard W. Watson, Don I.
Andrews/SRI-ARC; Sub-Collections: SRI-ARC; Clerk: KEV;
Origin: <VICTOR>FLAGS.NLS;1, 7-MAR-72 16:09 KEV ;

Reply to your reply.

thanx for the prompt reply. One point needing clarification:

What hours are you down, the first Tuesday of the month?

Thanx. d/

1

DHC 13-JUN-72 11:42 10739

Reply to your reply.

(J10739) 13-JUN-72 11:42; Title: Author(s): David H. Crocker/DHC;
Distribution: Shirley W. Watkins/SWW; Sub-Collections: NIC; Clerk: DHC;

PERC Notes 8 June 1972

Attendees: RWW JCN PR WLB

1

This meeting was devoted to a first pass at establishing mechanisms within LINAC for handling the 12 on-going tasks enumerated in a previous PERC meeting (10615,) as critical in the day-to-day functioning of ARC.

2

These mechanisms will operate within the organizational framework as established by DCE in (10034,) and subsequently elaborated. Many of the areas below need much more refining and PERC requests and welcomes dialog to aid the development of a workable management system.

3

The basic structure consists of the Projects, the Developmental Thrusts, Operations, and the Development Coordinator reporting to the Planning and Executive Review Committee (PERC).

3a

The membership of PERC is the set of Project and Developmental Thrust Pushers, and the Operations and Development Coordinators, with a Chairman (RWW) appointed by DCE.

3b

The functions of PERC are to plan, coordinate, and review LINAC activities, resolve conflicts and generally to see that we are investing our scarce resources on the most important tasks at any given point in time.

3b1

PERC currently has one subcommittee, the Executive Management Committee, consisting of RWW JCN and WHP. The purpose of EMC is to carry out established LINAC policies in the day-to-day operations of ARC.

3c

The functions of the EMC are to handle the day to day operational decisions that are outside projects, thrusts, and operations which continue to occur; examples are to be found in the EMC notes for late 1971 and early 1972. Any decision of EMC is reviewable by the entire PERC if desired and the EMC role as well as PERC's will have to evolve with time. The key point is that all decisions of EMC and PERC should be available in the appropriate minutes.

3c1

At this meeting of PERC, coordinator roles within PERC were defined. A coordinator is simply a member of PERC who is responsible for seeing that some specific area of business receives the attention from PERC and EMC that is required for achieving results in that area. The role of coordinator is simply to see that activities in his area do not fall through the cracks. The responsibility is still PERC's or EMC's.

3d

PERC Notes 8 June 1972

Below is a copy of the list of 13 issues posed in (10615,) as areas requiring LINAC attention, along with the beginnings of mechanisms which are being established for dealing with these issues.

4

0. Handling day to day problems

4a

Day to day problems are to be handled wherever possible by discussion, dialog, meetings, negotiations between the relevant thrusts, operations, projects, individuals, design teams, etc.

4a1

Conflicts which can not be resolved at this level are to be brought to the attention of EMC or PERC.

4a2

There is a question as to whether issues should first go to EMC or PERC for delegation to one or the other. In the meantime conflicts or issues should come to the PERC chairman for referral to EMC or PERC until this area is clarified.

4a3

1. DCE work load relief/delegation

4b

DCE has agreed to limit his involvement in LINAC by working through PERC, its subgroups and chairman.

4b1

2. People resource allocation rules

4c

PERC will make an initial cut at people resource allocation after studying our present commitments and the plans of projects, thrusts and operations.

4c1

The responsibility for keeping track of the assignments of people resources rests with the Operations Pusher and Development Coordinator (JCN/WHP), who will maintain the visibility of these resource assignments through the Baseline Record System. It is the responsibility of each pusher and person at ARC to see that his tasks listed in the baseline record for a project, thrust, or himself are accurate.

4c2

It is assumed that everyone is involved to one or more projects, thrusts, or operational tasks which have funds for the work which is being done, and that everyone is doing things which have been approved as desirable by the appropriate pushers and coordinators.

4c3

It is assumed that the relative priorities of tasks of projects, thrusts, operations is to be continuously

PERC Notes 8 June 1972

- reviewed by PERC and possibly altered based on new needs, better understanding of the situation etc.. 4c4
- If a person has something he feels should be done, he should enter his suggestion as a need or possibility in the Baseline Record for the appropriate project, thrust, operation, discuss it with the relevant pusher(s) so that it can be integrated into their planning and priority schedule. 4c5
3. Understanding current resource commitments at this instant in time 4d
- This information needs to be pulled together by PERC from a understanding of our current commitments. RWW is coordinator in this area. 4d1
4. Short term plans 4e
- As Chairman of PERC, RWW is Prodder for seeing that the planning effort gets the needed attention. He will prepare a written request reviving this effort for consideration at the next PERC meeting. 4e1
5. Recruiting 4f
- PERC will take responsibility for the recruiting effort, with WLB acting as Prodder, and EMC handling the operational follow-through. 4f1
6. Organization roles and responsibilities 4g
- PERC will be responsible for elaborating on the existing descriptions of organizational roles and responsibilities. This document represents current steps in this process. 4g1
7. Conflict resolution 4h
- Conflicts should be resolved between the affected parties directly wherever possible and then be brought to EMC or PERC, through the PERC/EMC Chairman, if needbe, with DCE being the final arbiter when absolutely necessary. 4h1
8. Project review 4i
- PERC as a whole will review Projects, Developmental Thrusts, and Operations, both looking at problems/progress and at priority of tasks being done. CHI will act as Prodder for seeing that the review process remains current

PERC Notes 8 June 1972

and active. PERC will set a goal of reviewing one or more activities of LINAC at each meeting.

4i1

9. Personnel administration

4j

This is a difficult area which PERC would like to punt for the time being by leaving salary administration to DCE, and other problems to regular ARC processes. JCN will act as Prodder in this area for the purpose of seeing that PERC gives on-going attention to the formulation of explicit mechanisms for handling the responsibilities of personnel administration. In the mean time, any member of PERC may be approached in an "ombudsman" role by any member of ARC who has any problem which he doesn't know how to handle.

4j1

10. Promotion/marketing

4k

Action in this area is held up pending clear statements from DCE as to what our policies should be. MDK will act as Prodder for keeping PERC focussed on the problems in this area and for seeing that actions possible within the existing policy framework receive due attention.

4k1

11. LINAC/FRAMAC/PODAC interface

4l

LINAC, FRAMAC, and PODAC are activities existing at the same organizational level within ARC, and all three of these activities report to DCE.

4l1

The PERC Chairman is responsible for keeping LINAC in phase with the policy deliberations taking place within FRAMAC by coordination with DCE.

4l2

PERC Notes 8 June 1972

(J10740) 13-JUN-72 13:14; Title: Author(s): Richard W. Watson/RWW;
Distribution: Kay F. Byrd, Ralph Prather, James E. White, Augmentation
Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul Rech, Michael
D. Kudlick, Donald R. Cone, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
William S. Duvall, Douglas C. Engelbart, Beauregard A. Hardeman, Martin
E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G.
Lehtman, Jeanne B. North, James C. Norton, Cindy Page, William H.
Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De
Riet, Dirk H. van Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard
W. Watson, Don I. Andrews/SRI-ARC; Sub-Collections: SRI-ARC SRI-ARC;
Clerk: RWW;
Origin: <WATSON>PERC.NLS;3, 13-JUN-72 13:11 RWW ; Minutes of 8
June 1972 PERC Meeting

These are the initial ideas we talked about on the Portable TV cameras and recorders we are considering buying as ARC capital equipment.

1

I'm assuming that you are still the pusher for the task of making a study and then a recommendation to PERC/DCE about the configuration to buy, and the generating necessary supporting documents that go with it.

1a

It appears that this is a good time to resolve the issue and place the resulting order.

1a1

Since they are to be capital equipment, we need to write a small (half page?) justification, showing our need and their intended use.

1b

This should probably center on their expected use in demonstrations, training (on our several projects, not just one), and on overhead: FRAMAC, PODAC, promotion, etc..

1b1

In addition, we will probably find some ways to use these capabilities in the development and perhaps operation of the Dialog Support System.

1b2

The units now being considered are:

2

(you supply the model numbers and other details?)

2a

One SONY Recorder 525 lines (not so portable) \$700?

2b

One SONY Porta-pack 525 lines \$1500?

2c

1 hour attachment 525 lines \$ 200?

2c1

One SONY Editing recorder 525 lines \$1000?

2d

Initial supply of tapes: 10 @ \$40 (1 hour each) \$400

2e

Small 9" portable TV monitor unit? \$100

2f

Total: \$3900?

2g

These units would let us record one or two ARC console TV monitors simultaneously, while recording subjects' sound and environment with the Portable unit.

3

Later, we could use the editing unit to combine recordings, either intermixed directly, or through our existing mixer (used

To Harvey re: TV Recording Units Selection Task

for the ASIS Conference) for overlays, window shots, etc. to produce integrated final product tapes.

4

We should also consider getting the above listed small (9") portable TV monitor unit, so that the Portapack and the monitor can be taken to any site to show the tape recordings. Such a unit would be useful during recording sessions.

5

We need good zoom lenses. Do we have any?

6

What did we use for the ASIS?

6a

JCN 13-JUN-72 18:13 10741

To Harvey re: TV Recording Units Selection Task

(J10741) 13-JUN-72 18:13; Title: Author(s): James C. Norton/JCN;
Distribution: Harvey G. Lehtman, Douglas C. Engelbart, Douglas C.
Engelbart, Walt Bass, Charles H. Irby, Michael D. Kudlick, James C.
Norton, William H. Paxton, Paul Rech, Richard W. Watson/HGL DCE(for
info) PERC; Sub-Collections: SRI-ARC PERC; Clerk: JCN;
Origin: <NORTON>HARVEY.NLS;1, 13-JUN-72 18:10 JCN ; HJOURNAL="
JCN 14 JUN 72 6:21AM 10741";

From: Jim Norton

cc: Doug Engelbart

Thanks for your memo, Torben. I like to hear from you and will look forward to seeing you in August.

1

The article you mentioned was reprinted from an AP news release that evidently appeared in several hundred U.S. papers. When we were interviewed, we talked about Doug Engelbart as being the principle researcher for our program -- over and over. Newsmen being what they are (perverse?), no mention of Doug appeared, much to my dismay.

2

We are not planning to use the term "HIAS" coined for us by the AP. Aside from these two "negative" points we are glad to have the fairly broad coverage that the article provided.

2a

My role in ARC is still developing and is increasingly interesting and challenging. I work (and think?) at many levels -- from designing and implementing new system features to analyzing possibilities, processes, situations, and strategies to managing our Operational activity -- while using the online (and offline) system extensively.

3

I often reflect on my good fortune in having your support and encouragement, particularly in 1968, that brought me into this work. It really made a difference to my career. If I can help someone else in a similar way, I'll know what it means to him.

4

* THANKS AGAIN *

4a

About the information you wanted:

5

I have enclosed our last ARPA (RADC) project interim report (8277,).

5a

We are just finishing the Final Report for the past twenty-seven months' work for ARPA. I also include a draft copy of several sections of that report, including its Table of Contents. It will be published in September, I suspect.

5a1

This draft is really just for your personal use now, as it is not yet approved by ARC or SRI.

5a2

I am sending a copy of our proposal (7404,) for the project we are now just starting for the next twenty-one months.

5b

We also have a small project with ONR, the Annual Report (10045,) being enclosed.

5c

The list of references may be of use, since this is our most recently published project report.

5c1

Our small project with RADC to help them learn to use the system in their own environment has just started and will not produce reports.

5d

Doug is working on plans to broaden our interactions with other system-developers, by launching what he calls the "Bootstrap Community".

6

We hope to use our dialog support system to cooperate with other system development groups so as to accelerate the overall augmentation system-building process. It's hard to get started, but we have faith that it will eventually happen.

6a

We still have trouble getting the basic ideas about what augmentation systems could be and could mean across to people. It always seems to come back to the fact that people have to experience using the system before they really start getting an understanding of the framework within which Doug is talking.

6b

It's mainly a combination of their having different frames of reference and our not being as clear about our ideas as we should--but we're working on it.

6b1

It seems easy to stimulate enthusiasm about "the system" in people who see the system's superficial "flashyness". This at least captures the attention of people whom we want to understand what we're about. It's effecting their real understanding that is our challenge.

6b2

The ARPANET is growing in size and in number of people involved. People from all over the country are beginning to use NLS at ARC via the Network to compose documents and transmit them to others in the Network.

7

We are slowly seeing people who are remote from one another starting to cooperate (using our NIC Journal) on common tasks --distributed subgroups, isolated people with common interests.

7a

The medium is now there for this to grow. All it needs is some time to "ripen".

7b

We have recently been reviewing Doug's 1962 Conceptual Framework document (I'll enclose one in case yours is not handy).

8

We are still on the planned program Doug laid out then, but

the description of "Joe", the future augmented worker, is close to a picture of our present advanced user, with only a few system features lacking.

8a

We plan to make a picture of "Joe" ten years from now soon, at least I plan to.

8b

Well, I must close. See you soon?

9

JCN 15-JUN-72 15:05 10742

To: Torben Meisling

From: Jim Norton

cc: Doug Engelbart

(J10742) 15-JUN-72 15:05; Title: Author(s): James C. Norton/JCN;
Distribution: Douglas C. Engelbart/DCE; Sub-Collections: SRI-ARC; Clerk:
JCN;
Origin: <NORTON>TORBEN.NLS;1, 15-JUN-72 10:12 JCN ; HJOURNAL="
JCN 20 JUN 72 10742";

Preliminary Shelf Design for ARC Hardcopy Baseline Records

The following outlines the design for a Baseline hardcopy Shelf layout:

Use 1" and 2" Green plastic covered binders.

Each binder to have these dividers:

(See 101, Operations Administration example)

Contents (no divider)		1b1
Goals and Responsibilities	-1-	1b2
Current Plan	-2-	1b3
Current Tasks: Requirements and Designs	-3-	1b4
Blank dividers between tasks, tabs at bottom		1b4a
Current Tasks: Schedule Views	-4-	1b5
Relevant Documents and References	-5-	1b6
Blank dividers between tasks, tabs at bottom		1b6a
Other Data	-6-	1b7

The binders will be organized as follows:

For Projects: 1" for most activities, 2" where needed.

Activity summary accounts (*nnn*) will not have binders

1868 Contract RADC/ARPA:	1c2
100 OPERATIONS	1c2a
101 Administration	1c2a1
102 CSO - Hardware	1c2a2
103 CSO - Software	1c2a3
104 CSO - Operators	1c2a4
105 PSO - General	1c2a5
106 User Interface	1c2a6
200 DEVELOPMENT	1c2b
201 Development Coordination	1c2b1
202 Delivery	1c2b2
203 DSS - Dialog Support System	1c2b3
204 DPCS - Documentation Production and Support System	1c2b4
205 BRS - Baseline Record System	1c2b5
206 SDHS - System Developers Handbook System	1c2b6
207 SEAS - Software Engineering Augmentation System	1c2b7
208 NLS/TENEX General	1c2b8
208 Other	1c2b9
300 MINI-CONSOLE	1c2c
301 Administration	1c2c1
302 System Development	1c2c2
400 IPT	1c2d
401 Administration	1c2d1
600 NIC	1c2e

Preliminary Shelf Design for ARC Hardcopy Baseline Records

601 Administration	1c2e1
603 CSO	1c2e2
605 PSO	1c2e3
606 Net Interface	
(includes Station Agent and Net participation)	1c2e4
607 NIC Development	1c2e5
700 XEROX	1c2f
701 Administration	1c2f1
702 MPS Development	1c2f2
8622 Contract ONR:	1c3
800 SDIS	1c3a
801 Administration	1c3a1
808 SDIS - System Developers Intelligence System	1c3a2
1894 Contract RADC:	1c4
900 RADC	1c4a
901 Administration	1c4a1
905 Baseline Management System Development Support	1c4a2

In addition: 1d

An overall ARC Baseline view binder will include: 1d1

Current Task Schedule by Individual 1d1a

Current Task Schedule - All ARC 1d1b

(The above views are those currently produced weekly by the BRS.) 1d1c

The following procedures will be used initially to keep the Baseline Record hardcopy collection up to date: 2

Each Project, Development activity, and Operations pusher will provide an initial (and subsequent updates) plan as per RWW/PERC request (10753,). 2a

Each plan will be entered into the Journal with a copy to IDENT: "BRS" (to be set up by BER) in the MSR directory. 2a1

The first hardcopy production of each plan is the responsibility of the originating pusher (with help from PSO). 2a2

Subsequent plan updates hardcopy will be made by PSO (details to worked out soon by JCN) with reference to the file <MSR>BRS under (Journal) branch. 2a3

Weekly BRS all task and person views will be prepared and filed by PSO (as at present). 2b

Preliminary Shelf Design for ARC Hardcopy Baseline Records

The present Baseline data file will have major headings renamed to correspond to the pattern outlined above. 2c

Current task requirements (as exist) and designs (few now exist) will be printed by PSO using the program below. 2d

RESET % settings for requirements formatting in BRS 4/72	
JCN-BLP %	2d1
ALLSUBT = YES	2d1a
BODYSUBT = YES	2d1b
REPQUOTE = YES	2d1c
SUBHED = YES	2d1d
SUBSTRUC = Requirements Designs Subtasks % %	2d1e

Plans in response to the initial request (10753,) will contain information about goals, responsibilities. These can be separated later by PSO for separate filing, since they will change less often than plans. 2e

Any relevant documents or reference material may be filed as each pusher desires. Later we can look into what else we would like to see here. 2f

Any ideas on this "scheme" are welcome. -- JCN. 2g

Preliminary Shelf Design for ARC Hardcopy Baseline Records

(J10743) 16-JUN-72 13:24; Title: Author(s): James C. Norton/JCN;
Distribution: Douglas C. Engelbart, Walt Bass, Charles H. Irby, Michael
D. Kudlick, James C. Norton, William H. Paxton, Paul Rech, Richard W.
Watson, Cindy Page, Dirk H. van Nouhuys, J. D. Hopper, Douglas C.
Engelbart/PERC CXP DVN JDH DCE; Sub-Collections: SRI-ARC PERC; Clerk:
JCN;
Origin: <NORTON>BASESHELF.NLS;2, 16-JUN-72 13:09 JCN ;
HJOURNAL="JCN 20 JUN 72 5:51AM 10743";

Please make up binders in accordance with the set outlined in the attached document (10743,).

1

There are several boxes of green binders in my office that should be used for this purpose.

1a

Each binder should have numbered dividers from the supply room by DCE's office.

1b

Each binder should have two typed labels mounted in metal holders as in the example binder for activity 101 - Operations Administration on the Baseline shelf in the Cave.

1c

Two inch binders should be used for those items marked on (10473,) in red. The others should be 1 inch binders.

1d

Please see me if any questions arise. I would like to have this task completed by Monday, June 19th if possible.

2

Baseline Binder Setup Task for PSO

(J10744) 16-JUN-72 13:22; Title: Author(s): James C. Norton/JCN;
Distribution: Douglas C. Engelbart, Walt Bass, Charles H. Irby, Michael
D. Kudlick, James C. Norton, William H. Paxton, Paul Rech, Richard W.
Watson, J. D. Hopper, Cindy Page, Douglas C. Engelbart, Dirk H. van
Nouhuys/PERC JDH CXP DCE DVN; Sub-Collections: SRI-ARC PERC; Clerk: JCN;
Origin: <NORTON>BINDERS.NLS;1, 16-JUN-72 13:09 JCN ; HJOURNAL="
JCN 20 JUN 72 5:52AM 10744";

NET Servers Status Info

Dick;

Have a format for a Server Status Information file, which users could access when curious about current or future-planned down-time for the NET servers. I'd appreciate any suggestions you have. Location: (arpa,dhcsstat,0).

1

DHC 14-JUN-72 13:27 10746

NET Servers Status Info

(J10746) 14-JUN-72 13:27; Title: Author(s): David H. Crocker/DHC;
Distribution: Richard W. Watson/RWW; Sub-Collections: NIC; Clerk: DHC;

SC 14-JUN-72 13:35 10747

ITS A GREAT NEW WORLD

SPEAKEASY IS P AND RUNNING AT UCLA PHONE ME

1

SC 14-JUN-72 13:35 10747

ITS A GREAT NEW WORLD

(J10747) 14-JUN-72 13:35; Title: Author(s): Stanley Cohen/SC;
Distribution: Ernest H. Forman, Stanley Cohen/EHF(LOOKY) SC;
Sub-Collections: NIC; Clerk: SC;

Output Proc Problem, still.

Dirk;

The problem I asked you about yesterday, regarding the output processor padding the beginning each line with 3 spaces seems to still be occurring.

This, whenever I use any margin command, 'LN' or BLM' cause the left padding and 'RM' or 'BRM' result in the right over-printing.

Very strange. ... Any thoughts? d/

1

DHC 14-JUN-72 13:56 10748

Output Proc Problem, still.

(J10748) 14-JUN-72 13:56; Title: Author(s): David H. Crocker/DHC;
Distribution: Dirk H. van Nouhuys/DVN; Sub-Collections: NIC; Clerk: DHC;

TRANSMITTAL LETTER: NLS NETWORK SERVICE FACILITY 20 JUN 72

2

To: (Prospective Offeror)

Subject: (RFP No.)

Gentlemen:

Stanford Research Institute invites you to submit a proposal on Facilities Management of the "NLS Network Service Facility," as set forth in the attached Request for Proposal.

Your submittal should arrive at SRI by August 1, 1972, and be addressed to:

Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, California 94025
Attention: Mr. G.C. Kasolas
Contract Administrator

Three copies of your submittal are requested, each of which should contain all of the elements of cost in detail necessary in your opinion to perform the effort contemplated. Performance of the effort, period of performance., and type of contract will be in accordance with and as indicated in the attached RFP.

This request does not commit SRI or the government to pay any costs incurred in the submission of the proposal, or to procure or subcontract for services or supplies in connection with the submission of this proposal. Further, this Request for Proposal does not commit SRI or the government to any costs incurred in anticipation of a contract.

Your attention is invited to that section of the RFP which clearly states that it is SRI's intent to incorporate prospective offeror's proposal within and as a part of an SRI proposal for a prime contract with the U.S. government. Accordingly, appropriate permission will be required.

Notification is to be given to SRI within 10 days indicating the prospective offeror's intent to bid. If a proposal is not to be submitted, the attached RFP is to be returned to SRI.

Very truly yours,
G.C. Kasolas
Contract Administrator

MDK 14-JUN-72 15:48 10749

TRANSMITTAL LETTER: NLS NETWORK SERVICE FACILITY 20 JUN 72

3

12

Gentlemen:

13

This is a Request for Proposal on facilities management of an "NLS Network Service Facility," consisting of a PDP-10 TENEX timesharing system connected through a TIP or an IMP to the ARPANET. The purpose is to support SRI-ARC in providing special timesharing computer services to the ARPA Network user community. (SRI-ARC is the Augmentation Research Center of Stanford Research Institute.) By "facilities management" we mean the procurement, operation, and maintenance of a computer hardware and software system, including such supporting functions as archival data storage and retrieval, output processing and report distribution, and user accounting and interfacing. These concepts are defined in the text that follows. 14

INTRODUCTION

15

Price Quotation

16

Your price quotation should address these three main aspects of facilities management: 17

- (1) Basic system and support requirements 17a
- (2) Expansion possibilities 17b
- (3) Contingency and miscellaneous events. 17c

In addressing these three aspects, the quotation should indicate which items are critical in any sense, e.g., long lead time to procure, difficult to provide desired service levels, etc. The "Statement of Work" section covers the above three categories in more detail. 18

Note that while the Statement of Work describes the type of facilities management operations we envision, we will also entertain proposals that deviate from our specifications. All items are to be construed as indications of SRI-ARC expectations, not as binding constraints that must be agreed to in your reply to this request. We will consider awarding a contract based on specifications different from those we describe, provided that our end goals are met and that costs and other factors are in line with our expectations. 18a

The quotation will be evaluated by SRI-ARC according to the following criteria: 18b

REQUEST FOR PROPOSAL: NLS NETWORK SERVICE FACILITY 20 JUN 72

5

Qualifications of Personnel Facilities management company.	18b1
Facilities Type of equipment Location of equipment Capability for future expansion Location of personnel.	18b2
Ability to meet schedule	18b3
Cost and/or price	18b4

The quotation must include certain details of personnel experience, location of equipment and personnel, etc. These are enumerated in the "Facilities Management Criteria" and "Miscellaneous Requirements" sections.

19

If any proposal/offer contains proprietary information it should be appropriately identified and marked, and permission be given both to SRI-ARC and to the U.S. government to use such information for evaluation purposes in considering the offeror's proposal. Explicit permission to incorporate offeror's proposal into and as a part of SRI-ARC's proposal to the U.S. government for a prime contract will be required.

20

Contract Considerations

21

Because of budgeting and timing constraints, we request that the price quotation be available to us by August 1, 1972, and be valid until January 1, 1973.

22

We anticipate that a fixed-price subcontract, under a U.S. government prime contract, will be negotiated for a one-year facilities management arrangement to commence January 1, 1973. (Other proposed forms of subcontract may be considered.) We expect that the contract negotiation period will begin about September 1, 1972. However, we must emphasize that at the present time we have no funds to negotiate a contract. Your reply to this request will be the basis for our making proposals to acquire the necessary funds. We make no guarantee that any contract will be awarded.

23

SRI-ARC may elect to prenegotiate a contract with a selected, qualified vendor before receipt of a formal prime contract from the government, to expedite and facilitate commencement of the proposed requested services. Prenegotiation of a contract would not incur any cost obligation on the part of SRI-ARC. 23a

If, to meet the agreed on start date, it becomes necessary to order equipment before a contract go-ahead, such would be solely at the vendor's risk. 23b

If it becomes feasible to negotiate a two-year contract rather than a one-year contract, or if it becomes possible to renegotiate the one-year contract into a contract lasting more than one year, then we would like to consider doing this. Therefore, we would like your quotation to include any information (such as pricing changes, dates by which you would have to know of the altered plans, etc.) that would affect or be influenced by these possibilities. 24

STATEMENT OF WORK 25

Specific requirements concerning the above three main aspects of the facilities management concept will now be considered. 26

(1) Basic system and support requirements 27

Hardware Configuration 27a

The hardware system is a 128K PDP-10 computer system, with pager, swapping drum, disk storage, associated peripheral devices, and interfaces to accommodate local terminals and terminals on the ARPANET. 27a1

A list of hardware components necessary to support about 20 simultaneous users (out of a community of about 200 users) under the TENEX timesharing system is given in the attachment (Figure 1). 27a2

A proposed configuration that provides the equivalent or better functions and service levels to that shown in the attachment will not disqualify an offeror from being selected for the facilities management contract. 27a3

Hardware Procurement, Installation, and Maintenance 27b

We expect you to manage the procurement, installation, and maintenance of the hardware required for our needs. In the configuration of Figure 1 certain special equipment is indicated. This is the following:

27b1

The BBN "pager" and associated arithmetic processor modifications to the PDP-10 computer.

27b1a

The interface message processor (IMP), and phone lines to allow tie-in to the ARPA Network.

27b1b

The interface hardware to connect the IMP to the PDP-10.

27b1c

Please note the following:

27b2

The IMP will have to be acquired through the Advanced Research Projects Agency, ARPA. The BBN pager, the arithmetic processor modifications, and the IMP interface hardware probably will have to be acquired from BBN.

27b2a

Certain software aspects of TENEX (especially the Network Control Program) are implemented to use these special pieces of hardware. Any deviations from the existing hardware would require software modifications.

27b2b

Other considerations:

27b3

Availability and cost of floor space, air conditioning requirements, and similar installation factors and costs should be stated in your quotation.

27b3a

Please indicate in your Proposal whether you intend to operate more than one PDP-10 TENEX timesharing system as part of your overall installation. We would expect that your ability to provide a reliable system would be enhanced if more than one such system were being operated by your personnel.

27b3b

Software Procurement and Maintenance

27c

TENEX Timesharing System

27c1

The TENEX timesharing system software will be government furnished. Some initial modifications to the standard BBN TENEX software are required for the processing of the SRI-ARC on-line system software, "NLS". SRI-ARC would assist you in making the initial installation and initial modifications as necessary.

27c1a

Following installation, all subsequent BEN releases of the TENEX software are to be installed on receipt. For each such new release, installation may require that previous SRI-ARC modifications to TENEX, and/or previous modifications made by you the facilities management company, would have to be installed in the new release, possibly with SRI-ARC assistance.

27c1b

NLS (SRI-ARC's On-Line Interactive System)

27c2

The NLS system is to be provided and installed by SRI-ARC as a subsystem under TENEX. Maintenance and upgrading will be the responsibility of SRI-ARC. The NLS system is not to be copied, duplicated, or put to any use other than that prescribed herein for the purposes of facilities management for SRI-ARC.

27c2a

TENEX Subsystems

27c3

Only a subset of the whole set of available TENEX subsystems will be installed. Those subsystems to be installed will be described at the time the contract is negotiated. The facilities management company will not be expected to provide maintenance on any of the subsystems. Maintenance could be provided by BEN, by DEC, or by SRI-ARC.

27c3a

Supporting Functions

27d

Computer Operations

27d1

Six days per week, Monday through Saturday.

27d1a

Two shifts per day, covering 5 AM to 9 PM Pacific time.

27d1b

Archival Data Storage and Retrieval

27d2

By archival storage is meant storage on magnetic tape or other tertiary storage medium, usually an off-line medium.

27d2a

The TENEX system has facilities to allow the operator to cause selected files to be archived automatically. This function will have to be performed weekly.

27d2b

An archived file should be able to be placed in the on-line storage medium, on user request to the facilities management operator, within a period of time not longer than one hour and preferably as short as 10 to 15 minutes after the user request is received.

27d2c

Output Processing and Report Distribution

27d3

Printer output, generated by SRI-ARC supported software, will have to be mailed to users at their request, sometimes with multiple copies (not carbon, but repeated). In some special cases, blocks of such output would be transmitted directly to SRI-ARC for further processing. (SRI-ARC would provide address information; the printouts could be addressed automatically; the type of paper would be specified by the user.)

27d3a

Accounting for Resources Used

27d4

A detailed monthly report, by account number and user name, is to be provided to SRI-ARC. Standard TENEX accounting routines may be used for this purpose.

27d4a

User Interfacing

27d5

An operator must be available to answer requests for general (beginner-level) information about use of the TENEX timesharing system. (A manual on TENEX usage exists and would be available to the facilities management company.)

27d5a

The requests that can be anticipated will concern file status, output status, system availability, storage space allotments, and the like.

27d5b

Training of users is neither required nor expected of the facilities management team.

27d5c

(2) Expansion possibilities

28

We consider that the capacity or capabilities of the initial configuration will have to be improved (upgraded) from time to time, though not frequently, to enhance services to users. Some of the areas and capabilities that we anticipate will require upgrading are listed below. Please indicate any difficulties you foresee in such upgrading, and by what increments in cost and capability such upgrading could be attained.

28a

Central processor and main memory:

core size
core speed
number of processors.

28a1

Swapping drum:

capacity

bandwidth. 28a2

On-line file storage:

capacity

average access time

transmission rate. 28a3

Archival (off-line) file storage:

capacity

density

average time to move a file from off- to on-line storage. 28a4

Low-speed communications:

eight-level serial teletype code

up to about 64 lines on-line from any point in the U.S.

speeds up to 2400 bits per second. 28a5

Operator service and/or support:

type and level of service/support provided. 28a6

Another possible mode of expansion is to add different types of equipment, such as computer output to microfilm. We recognize that these types of equipment will have to be specified by us at the time they are desired, and that no quotation can be made by you at this time. However, we would like your comments on this if you foresee any difficulty in making such additions (for example, whether you would be willing to make any necessary software additions to accommodate the new equipment).

28b

(3) Contingency and miscellaneous events 29

In considering the requirements for facilities management as described above, it is clear that certain contingencies and other events may occur at unpredictable times. We will expect that mutually acceptable conditions will be included in the contract for facilities management to cover these events.

29a

Those events that can be anticipated are listed below. With each event is a preliminary statement of how we currently would prefer to handle it. This is subject to further modification by SRI-ARC, and to negotiation with the selected facilities management company.

29b

Your comments on these procedures should be included in your reply to this request. Comments should include what procedures you would propose instead of, or in addition to, those we are proposing.

29c

(a) Contingencies

29d

Failure to Meet Agreed-on Start Date

29d1

"Meeting the start date" means that, commencing with the agreed-on start date, the computer system and all supporting functions are "fully operational and usable" in prescribed fashion through the ARPANET at least 90 percent of the time during the first six consecutive days of operations, with no more than three "crashes" during that period. 29d1a

"Crash" means that the computer system is down and inaccessible from ARPANET terminals. (However, if only the IMP is down and everything else is operational and usable, then the system will not be considered down.) 29d1a1

If any file is lost or damaged as a result of hardware malfunction or operator error, the computer system will be considered to be not fully operational and usable commencing with that shift in which the problem was detected, and continuing until the problem is corrected. (A "shift" is either of the two periods (1) 5 AM to 1 PM, and (2) 1 PM to 9 PM, Pacific time.) 29d1a2

Failure to meet the start date would result in total nonpayment by SRI-ARC until such time that the system and all supporting functions are "fully operational and usable", as defined above, for one period of six consecutive days. The beginning of that period would be the effective start date of the contract, and payments by SRI-ARC would be based on that date. 29d1b

If the effective start date occurs later than three months after the originally agreed-on start date, then renegotiation of the contract may occur. 29d1c

Downtime After System Becomes Operational

29d2

The computer system will be considered "down" if, in any week during which normal operations are expected, the system and all supporting functions are not "fully operational and usable" (as defined above in terms of percent up-time, number of crashes, and files lost or damaged). 29d2a

Payments by SRI-ARC would cease commencing with the time at which the computer went "down". 29d2b

Payments would be resumed after one period of eight consecutive hours of up-time is experienced.

29d2c

Note that the intent of this definition of downtime is as follows: The frequency of crashes as well as their duration are both important factors. One crash per hour resulting in less than 10 percent downtime will not be tolerable. We can, however, tolerate a bad day, i.e., two or three crashes in one day, provided this happens no more than once per week.

29d2d

Lost or Damaged Files

29d3

Accounting for file storage charges incurred by a user from the point in time that a file is damaged or lost to the point in time that the latest intact version of it is restored should be credited to that user's account.

29d3a

Recovery of the latest intact version of a damaged or lost file should be accomplished within the four-hour period from the time of notification to the facilities management team.

29d3b

The utility operation of saving the changed files of the on-line file storage medium by dumping them onto an off-line, tertiary (back-up) storage medium such as magnetic tape must be done at least once per day. (This is not the same function as "archiving", described above, archiving being permanent tertiary storage of selected files).

29d3c

Files thus dumped must be saved on a systematic cyclic retention basis, which we suggest should be the following:

29d3c1

Dump changed files once per day and save those of the most recent six days.

29d3c2

Dump all files once per week and save those of the most recent four weeks.

29d3c3

Dump all files once per month and save those of the most recent three months.

29d3c4

Failure to Perform to Specifications

29d4

Failure to perform to specifications over some extended period of time (currently anticipated as one month) would result in termination of the facilities management contract at SRI-ARC option, with no cost to SRI-ARC other than that due for the services provided during the time the contract was in force.

29d4a

(b) Miscellaneous

29e

Use by the facilities management company of the SRI-ARC computer system, for educational purposes, testing, or any other reason:

29e1

SRI-ARC has a running version of essentially the same computer system as that shown in Figure 1. It is possible that the facilities management team may want to use the SRI-ARC system for any number of purposes.

29e1a

SRI-ARC would negotiate this separately from the facilities management contract.

29e1b

Use of SRI-ARC expertise by the facilities management company for purposes of training its own personnel:

29e2

If such training is desired, please indicate this in your reply to this request.

29e2a

Indicate the type of training (e.g., TENEX systems software, NLS systems software, TENEX user facilities, NLS user facilities, PDP-10 computer operations, etc.), the number of personnel to be trained, and the previous experience of these personnel in the areas where training is desired.

29e2b

Addition of users other than those authorized by SRI-ARC:

29e3

If it becomes possible for the facilities management team to provide service from the same computer system that is operated for SRI-ARC to users other than those authorized by SRI-ARC, this would be subject to negotiation with SRI-ARC.

29e3a

It is expected that in such an event the facilities management contract would be modified to show decreased costs to SRI-ARC resulting from the compensating revenue gained by the facilities management company from the new users.

29e3b

FACILITIES MANAGEMENT CRITERIA

30

We anticipate that the services provided by the facilities management team will meet certain criteria, as outlined below. We would like your response to indicate whether you can meet these criteria, and if not what deviations you would like us to consider.

31

Equipment

31a

The computer equipment must be capable of providing services and functions equivalent to that provided by the equipment listed in Figure 1 (see attachment). 31a1

Location 31b

The location of the computer equipment is not of paramount importance, but it is desirable that it be accessible through local phone calls from SRI-ARC (i.e., it would be either located within the San Francisco Bay Area, or accessible via a data concentrator located in that area). 31b1

It is necessary that there be located within the San Francisco Bay Area a staff of qualified persons from the facilities management company with whom SRI-ARC could discuss technical and administrative aspects of the facilities management arrangement, both during the contract negotiation stages and throughout the life of the contract. 31b2

Experience of Facilities Management Company 31c

We require that the facilities management company we select shall have had experience in providing timesharing service on a commercial, competitive basis for at least two years. 31c1

Experience of Personnel 31d

We expect there will be two different types of staffing requirements on the facilities management team: systems programming, and computer operations. 31d1

These positions should be filled by persons with experience appropriate to the level of the work required. 31d2

Such experience levels should be no less than the following: 31d3

Systems Programming: two years experience with commercial timesharing systems. 31d3a

Computer operations: one year experience with commercial timesharing operations. 31d3b

MISCELLANEOUS REQUIREMENTS 32

Cost Breakdown 32a

REQUEST FOR PROPOSAL: NLS NETWORK SERVICE FACILITY 20 JUN 72

15

We ask that you detail your expected costs on the attached DD Form 633, as applicable. This is required to facilitate possible future government audit.

32a1

Indicate what overhead rates (and their basis) that you have used for calculating the charges to us of the personnel who will be running the system.

32a1a

Financial Statement

32b

Include the most recent financial statement of your company (your 1971 Annual Report will be sufficient).

32b1

Representative List of Contracts for Similar Services

32c

With your reply to this request, we would like you to include a representative list of other recent or ongoing contracts (both government and commercial) under which you provide services similar to those we have described in this document.

32c1

We would like documentation on the type of service, the duration of the contract, the name of the contractor, and the dollar volume to be included with each contract on this list.

32c2

33

ATTACHMENT. Figure 1: Hardware Configuration

34

Unless otherwise noted, all components listed below are those of Digital Equipment Corporation for the PDP-10 computer system. General characteristics of the principal devices listed below are included in the next subsection of this attachment. Components that provide equivalent or better functions and service levels will be considered in evaluating proposals.

35

Computer system:

- one KA10 Arithmetic Processor
- one BBN "pager" and associated arithmetic processor mods
- 128K words (eight modules) ME10 core memory
- one DK10 addressable clock.

35a

Swapping drum:

- one DF10 data channel
- one RC10 swapping drum control unit
- one RM10B swapping drum.

35b

Disk storage:

- one DF10 data channel
- one RP10C disk control unit
- two RP03 disk drives (one is a spare).

35c

Magnetic tape:

- one TM10A magnetic tape control unit
- two TU41 magnetic tape drives (one is a spare).

35d

Terminal interfaces:

- one BBN IMP (interface message processor)
- one IMP interface.

35e

Printer:

- one upper/lower case buffered line printer
- (of the quality of a Data Products Line Printer Model 4500)

35f

The principal devices listed above have the following general characteristics:

36

KA10 processor:

- 10 character per second console teleprinter
- 366 instructions, including floating point and byte manipulating instructions
- multiplexed input/output processor with seven levels of priority interrupt.

36a

ME10 core:

16,384 36-bit words per module
 1.0 microsec cycle time
 up to four memory access ports
 four-way interleaving and instruction look-ahead.

36b

RM10B swapping drum:

345,600 36-bit words of storage
 (90 tracks, 60 sectors per track, 64 words per sector)
 8.5 millilsec latency
 4.3 microsec per word transfer rate.

36c

RP03 disk drive:

up to 10,240,000 36-bit words of storage
 400 cylinders
 30.0 millilsec avg seek time
 12.5 millilsec latency
 15 microsec per word transfer rate.

36d

TU41 tape:

7 channels
 200, 556, and 800 bpi density
 120,000 characters per second.

36e

Data Products Model 4500 Line Printer:

132 characters per line
 600 lines per minute
 96 printing characters, including:
 blank
 upper and lower case alphabet
 numerals 0, 1, ..., 9
 special characters:
 " # \$ % & @ ! ~
 * = + - () [] < >
 : ; , . ? /

36f

37

MDK 14-JUN-72 15:48 10749

TRANSMITTAL LETTER: NLS NETWORK SERVICE FACILITY 20 JUN 72

1

(J10749) 14-JUN-72 15:48; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: Douglas C. Engelbart/DCE; Sub-Collections: SRI-ARC; Clerk:
MDK;
Origin: <KUDLICK>RPQXMTL.NLS;6, 14-JUN-72 15:42 MDK ;
@LBS=1*

How to Sort

(J10752) 15-JUN-72 14:22; Title: Author(s): Dirk H. van Nouhuys/DVN;
Distribution: Gino Pucine, Dirk H. van Nouhuys/GINO DVN;
Sub-Collections: SRI-ARC; Clerk: DVN;
Origin: <VANNOUHUYS>SORT.NLS;2, 15-JUN-72 14:14 DVN ;

How to Sort

To sort a Plex alphabetically, load the file, then

1

g[o to] p[rograms] s[ort plex] ADDR CA CA CA

1a

Where ADDR is the address of any top level statement in the plex.

1b

The syntaxconventions used to describe commands in the TNLS User Guide (,7470,6)

1b1

Bear in mind that "alphabetically" here means in order of the characters in standard 5-bit ASCII code, that is first some special characters, then numbers the all upper case, then all lower case, then some other special characters.

2

It is fairly easy to write social programs that sort in other ways, i.e. alphabetically without regard to case, and many such programs have been written. If you want to locate and use such programs, call me back.

3

For more information on the sorting program generally see (,7683,10)

4

Request for Plans

REQUEST TO PROJECT THRUST OPERATION PUSHERS FOR PLANS

1

INTRODUCTION

1a

The goal of this planning effort is to get down as many of our ideas as possible even if we do not have present resources to do all that is planned.

1a1

The time frame is from now until the end of the current contract Feb. 1974.

1a2

It is possible that we might not do any work in particular areas in the near future other than continuing planning in order to concentrate resources in a smaller number of areas. In other words rather than do a little work on a lot of things we might sequence through thrusts in time, but it is important that we understand the possibilities and interactions so that the proper underlying facilities exist.

1a3

WHAT IS REQUIRED

1b

Plans are desired from the following activities:

1b1

Project 1868 ARPA/RADC:

1b2

OPERATIONS

1b2a

DEVELOPMENT

1b2b

Development Coordination

1b2b1

Delivery

1b2b2

DSS - Dialog Support System

1b2b3

DPCS - Documentation Production and Support SYstem

1b2b4

BRS - Baseline Record System

1b2b5

SDHS - System Developers Handbook System

1b2b6

SEAS - Software Engineering Augmentation System

1b2b7

Basic NLS development

1b2b8

NIC

1b2c

MINICONSOLE

1b2d

XEROX

1b2e

Project 8622 ONR:

1b3

SDIS (RINS)

1b3a

Project 1894 RADC:

1b4

RADC

1b4a

JCN has set up (or is going to set up) some binders and procedures for keeping hardcopy of the Baseline plans in the cave area. This is important so that we can read each others plans and begin to get some cross dialog between related areas.

1b5

All Pushers should place in the binders Journal-entered copies of whatever they have as a first cut on June 30, and

Request for Plans

plan to have more complete plans which are organized according to the organization described below on July 11. A copy of our current contract and proposal to ARPA are available in the Handbook.

1b6

1b7

PLAN ELEMENTS

1c

The following items are the basic considerations each pusher should provide in his plan (using links where helpful):

1. Basic objectives of the activity as you see them.
What should it result in or produce?
What are the needs which these results are trying to meet.
2. The tasks, level of effort you think are really required to meet our present immediate (today), commitments, for example ARC operations, NIC operations, the ICCC Conference, Xerox, CIRAD, RADC, bug fixing, completion of presently being implemented feature etc..
3. New, alternative, changed features that may be added...including descriptions of what they are, how they might work, what they mean to the system and/or the users
4. All the non-machine methodology, procedures, and training that need development to really use the tools and features to produce useful total packages -- sub-systems. (Please don't neglect this area as it has been in the past. It is vital to what we are doing)
5. Stages of development... logical combinations of features (a self contained product which can meet some needs which you see), procedures, training (not just points in time)...describing the "look" at significant points.
The stages should be activity-related -- not necessarily related to ARC overall stages (we can work those out later).
Refer to stages by number: stage 1, stage 2, etc.
Some activities will have less apparent need for showing stages of development than others. Still, it seems it is important to "partition" the future plan in some way, even if on an arbitrary, less meaningful basis.
6. Relationships to other tasks or features needed
Where critical needs (for this activity) exist, they should be pointed out -- with some discussion of the situation.
These should be discussed either with relevant feature descriptions, or as "item 3.", as a separate, more general topic for the activity as a whole.
7. Effort needed to meet stages.
ROUGH estimates in man-weeks by feature or stage (+

1c1

1c1a

1c1a1

1c1a2

1c1b

1c1c

1c1d

1c1e

1c1e1

1c1e2

1c1e3

1c1f

1c1f1

1c1f2

1c1g

Request for Plans

types or who in mind if important? -- but we will do this later in most cases)

1c1g1

Implications on the staffing skills and levels required of ARC as a whole-e.g., skills needed but not present in ARC's staff or present in small "amounts".

1c1g2

Request for Plans

(J10753) 15-JUN-72 15:06; Title: Author(s): Richard W. Watson/RWW;
Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White,
Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul
Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R.
Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt
Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby,
Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton,
Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara
E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor,
Donald C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC;
Sub-Collections: SRI-ARC SRI-ARC; Clerk: RWW;
Origin: <WATSON>PLAN.NLS;6, 15-JUN-72 15:04 RWW ;

New Rules for Using the CATALOG Directory

The CATALOG Directory file allocation has grown too big and new rules governing its use are being put into effect as of MONDAY 19 JUNE. If you don't read this memo and take action by then, some files which are important to you may be deleted

New Rules for Using the CATALOG Directory

I have just noticed that the file usage of the CATALOG directory has reached 1290 pages. This violates the agreement I made with Smokey -- i.e., that CATALOG would be given a large space allocation so that the Catalog Production Processor could run and that in return I would see that the actual usage remained under 1000 pages. Hence, the following actions are required:

1

(1) I have created a file (catalog,1filelist,1) which will serve the same purpose as (nic,1filelist,) -- i.e., any files not described in (catalog,1filelist,) are candidates for IMMEDIATE deletion and expulsion.

1a

(2) Everyone having files in CATALOG directory which they do not want deleted should either move them to another directory or make an entry for them in 1FILELIST by Monday, 19 June. The format for entries is:

1b

'(FILENAME ') TAB IDENT TAB DATE

1b1

Description of file contents

1b1a

Where "IDENT" is the ident of the person responsible for the file, and "DATE" is the date after which the file can be deleted without contacting the person responsible for the file. "DATE" may be "Permanent" if the file REALLY needs to be kept around forever (i.e., until voluntarily deleted by the person responsible).

1b2

(3) Before adding new files to the CATALOG directory, think carefully whether they really belong there or in one of the NIC directories or in your own personal directory.

1c

(4) On MONDAY 19 JUNE I will arbitrarily delete and expunge from the CATALOG directory all files which have not been listed in 1FILELIST.

1d

New Rules for Using the CATALOG Directory

(J10754) 15-JUN-72 15:14; Title: Author(s): Walt Bass/WLB;
Distribution: Mil E. Jernigan, Barbara E. Row, Linda L. Lane, Beauregard
A. Hardeman, Jeanne B. North, Richard W. Watson, Cindy Page/MEJ BER LLL
BAH JBN RWW CXP; Sub-Collections: SRI-ARC; Clerk: WLB;
Origin: <BASS>MSS.NLS;1, 15-JUN-72 14:01 WLB ;

Request to EW for Any New Site Names and Numbers

Ellen: We're updating RWW's Official List of Host Names, RFC 289, NIC 8295, and need to correlate with you and to get from you any sites we can add at this time. I've created <north>SITENAMES and <noth>SITENUMBERS, giving the info in the two orders. Would you please copy these and make necessary corrections and desirable additions and send me a message when they're ready? Much obliged.

1

JBN 15-JUN-72 16:34 10755

Request to EW for Any New Site Names and Numbers

(J10755) 15-JUN-72 16:34; Title: Author(s): Jeanne B. North/JBN;
Distribution: Ellen Westheimer, Jeanne B. North/EW JBN; Sub-Collections:
SRI-ARC; Clerk: JEN;

Plans for Revision of the Draft Report to Rome

As I understand it, the following plan arose from the meeting of 6/15 among DCE, RWW, MFA, HGL, JCN, and DvN:

Cut:

Appendix on Basseline Record sytem Operation (12 pages) <DvN>

Appendix on Tree Meta (50 pages) <DvN>

Those parts of the section on Basic NLS that repeat material in the User Guides (c. 15 pages) <HGL 4 MFA 1 >

Add

To the section on Basic NLS: some interoductory paragraphs, a few pages on overall NLS flow including a chart, a page or so on motivation, a few pages on SEAS <HGL 16 ,CHI 4 >

To the section on the journal, some more technical details, some more about motivation <JCN 4 CHI 2>.

To the NIC section, a few statements giving the reasons for the extensive description of PSO oeration <Rww 2 >

To the summary, a statement explaining the relation of the report to the User Guides and the L-10 Manual

Photographs of: <DvN 4 KEV 16 >

✓TNLS Class,

✓PSO work room,

✓DEX terminal set up and at work,

✓A Sequence of pictures showing cross file editing on split screens,

✓A Sequence of pictures showing submission of a journal item

Doug's Office,

The cave walls with documents,

Move:

Plans for Revision of the Draft Report to Rome

The descriptions of journal operation from the NIC section to the Journal section <JC 1 >.

5a

Initials in brakcets indciate people resonsible. The numbers next to the initials are my guess about the number of working hours required. The people resonsible should discusse with me any canges in other parts of the report which flow from their changes.

6

In my mind, the real current state of the report is the file (documentation,spqr,1:x).

6a

It requires some care to keep confusions from arising as to what is the latest version of parts of the report.

6b

For that reason, we have adopted the convetion that people who want to make changes should copy the branch where they want to make alterations into a working file, that they tell me when they do so, and finally ask me to return the revised branch.

6c

Only Linda or myself read changes into the highest numbered version of (documentation,spqr,)

6d

Let me take this opportunity to list a few things that I intend to do or push for doing before this is a printable draft:

7

Make the form of headers the same in all sections,

7a

Rewrite abstact,

7b

Put in special print direactives to make examples, lists, and the like more attractive,

7c

Finish references,

7d

Change title to:"Final Report: Network Information Center and Computer Augmented Team Interaction",

7e

Make the table of contents correspond to the headings and sub headings o the sections,

7f

Fill in the intra-report links,

7g

Proof read final complete draf.

7h

Plans for Revision of the Draft Report to Rome

(J10758) 16-JUN-72 15:15; Title: Author(s): Dirk H. van Nouhuys/DVN;
Distribution: Mil E. Jernigan, Marilyn F. Auerbach, Douglas C.
Engelbart, James C. Norton, Harvey G. Lehtman, Linda L. Lane, Richard W.
Watson, Ed K. Van De Riet/MEJ MFA DCE JCN HGL LLL RWW EKV;
Sub-Collections: SRI-ARC; Clerk: DVN;
Origin: <VANNOUHUYS>REREV.NLS;3, 16-JUN-72 14:50 DVN ;

Change in Some DEX Control Characters

In order to help the PSO people making use of DEX-1 to enter catalog citations, we have modified some of the system's control characters to avoid some of the more common characters which are used in citations.

1

When the next version of NLS is brought up next week, the following substitutions will be made:

2

retesc, the carriage return escape character, will be "%" rather than "*".

2a

lndel, the line delete character, will be "↑" rather than "]".

2b

Change in Some DEX Control Characters

(J10759) 16-JUN-72 15:24; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White,
Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul
Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R.
Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt
Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby,
Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton,
Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara
E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor,
Donald C. Wallace, Richard W. Watson, Don I. Andrews/SRI-ARC;
Sub-Collections: SRI-ARC; Clerk: HGL;
Origin: <LEHTMAN>MESS.NLS;2, 16-JUN-72 15:22 HGL ;

Visitor Log: Seymour Zenlea of Mitre

Title: Visitor Log, Semour Zenlea of MITRE 1

Keywords: wired city; MITRE; Hanscom Air Force Base; 2

On June 5 Seymour Zenlea of MITRE in Bedford, Massachusetts visited ARC. 3

His background is in industrial engineering and his present title is systems analyst and cost analyst. 3a

MITRE has been working on its own money on a plan to wire an air force base after the manner of the wired city idea that came originally from Bell Canada and is being applied at (???). 4

Two-way cable TV would connect work stations throughout the base and offer a large variety of services. 4a

MITRE plans a testbed at Bedford in the next fiscal year (beginning work July 1972) and if that goes according to plan would start work at some future time on Hanscom Air Force Base which is next door to them. 4b

They hope the Air force will pay for part of the test bed. 4b1

Mr. Zenlea came to us through Col. Danielian (Special Assistant for Automation for the Deputy Chief of Staff for Plans and Operations for the Air Force) who had referred him to Duane Stone at Rome Air Development Center who had referred him to us. 4c

Doug and I talked to Zenlea for about an hour. Then I showed him the system and answered general questions for about another hour, and he lunched with RWW, PR, MDK, DCW, and JEW. 4d

He was interested both in the possibility of NLS as a service and in learning more about terminal hardware in general. 4e

We suggested for the testbed stage MITRE-Bedford might easily join the ARPA Network through Lincoln Lab which is next door. 4e1

If they later wanted to make greater use of the system, we described the possibilities of NLS being available for a price through TYMSHARE. 4e2

He looked over our terminal system, and I gave him very rough costs. For further information on hardware we referred him to Bill English at XEROX. 4e3

Visitor Log: Seymour Zenlea of Mitre

(J10760) 16-JUN-72 17:00; Title: Author(s): Dirk H. van Nouhuys/DVN;
Distribution: Douglas C. Engelbart, Michael D. Kudlick, Paul Rech,
Richard W. Watson, Duane L. Stone/DCE MDK PR RWW DLS; Sub-Collections:
SRI-ARC; Clerk: DVN;
Origin: <VANNOUHUYS>ZEN.NLS;2, 13-JUN-72 10:15 DVN ;

Personal Evaluation of the EST Course

(1) The EST Course is worth \$150.

1

(2) EST is NOT any of the following, although it has things in common with all of them:

2

Autogenic Training

2a

Encounter

2b

Gestalt

2c

Gurdjieff

2d

Positive Thinking

2e

Prayer

2f

Psychosynthesis

2g

Psychotherapy

2h

Self Healing

2i

Self-hypnosis

2j

Sensitivity Training

2k

Sufism

2l

Tao

2m

Yoga

2n

Zen

2o

(3) What EST IS is communicated only experientially -- i.e., there is no presentation of EST "Theory". For those of you who need it (e.g., those of you who have not experienced EST), I present below a brief INTERPRETATION of what EST is, for what it's worth (nothing).

3

EST is a system involving elements of philosophy, psychology, religion, metaphysics, and spiritual discipline.

3a

The purpose of EST is to increase ALIVENESS. "Aliveness" probably cannot be defined; it is related to the ability of organisms to successfully and joyfully function in the universe.

3b

Personal Evaluation of the EST Course

The principle technique used and taught in EST is that of "Creating Space." To create space means roughly to establish the conditions which will make something possible -- i.e., the something which will fill the space created. As a trivial example, telling a new NLS user how to use the Output Processor creates the space for her to use the Output Processor.

3c

The basic mechanism used in the EST Course for creating space is verbal communication, although space can be created in many other ways as well.

3d

The aspects of verbal communication most heavily employed are (1) language and (2) belief modification.

3e

There is almost an "EST Language", by which I mean not only are there certain words which are given particular weight and significance, but also there is an understanding that there are certain things which it just doesn't make sense to talk about at all or which only make sense when spoken of in certain ways.

3e1

By "belief modification" I mean the modification of ones beliefs, attitudes, and understandings that takes place when new ideas, concepts, and images are communicated to a person. This technique (at least as employed in EST) is so powerful that belief modification takes place without conscious decision -- i.e., the space is created by the communication itself.

3e2

For example, if you fervently believe that the earth is flat, and someone tells you with equal conviction that it is round, you will not have to decide to change your belief in the earth being flat, but you will never again be able to say that the earth is flat without wondering if it really is round, and you may be more receptive in the future to evidence that the world is round than you were in the past.

3e2a

(4) It is my sense that "EST Theory" has a great deal in common with "Augmentation Theory."

4

(5) Werner Erhard may well be the most capable "Personal Development" man in the world today, and I imagine that he is very capable at "Organization Development" as well, since his background is, in fact, in organization development.

5

Personal Evaluation of the EST Course

(J10761) 19-JUN-72 11:54; Title: Author(s): Walt Bass/WLB;
Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White,
Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul
Rech, Michael D. Kudlick, Donald R. Cone, Don Limuti, William R.
Ferguson, Priscilla Lister, Linda L. Lane, Marilyn F. Auerbach, Walt
Bass, Mary S. Church, William S. Duvall, Douglas C. Engelbart,
Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby,
Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton,
Cindy Page, William H. Paxton, Jeffrey C. Peters, Jake Ratliff, Barbara
E. Row, Ed K. Van De Riet, Dirk H. van Nouhuys, Kenneth E. Victor,
Donald C. Wallace, Richard W. Watson, Don I. Andrews/PODAC;
Sub-Collections: SRI-ARC PODAC; Clerk: WLB;
Origin: <BASS>ESTEVAL.NLS;1, 19-JUN-72 11:52 WLB ;

Invitation to an Oak POD / EST Presentation

Stewart Emory and possibly some other members of the EST Staff will be visiting Oak POD this Wednesday, 21 June, 3-5 PM, to show a videotape of an EST Seminar given at the Wells Fargo Bank and to answer questions. Any PODs or individuals who wish to join us for this presentation are cordially invited to do so. Location will probably be the Conference Room.

1

WLB 19-JUN-72 12:00 10762

Invitation to an Oak POD / EST Presentation

(J10762) 19-JUN-72 12:00; Title: Author(s): Walt Bass/WLB;
Sub-Collections: SRI-ARC; Clerk: WLB;

Monitor 1.29 Bug

Following an automatic restart, the system currently fails to print a BUGHLT message. This can be corrected by making the following changes in PISRV.MAC, page 2:

1

At SYSGO+13, delete:

MOVE 1,BUGHAD ;RESTORE CELLS
HRRZM 1,BUGHLT
HLRZM 1,BUGCHK

1a

Following SYSGO+21 (MOVEM 1,DEUGSW), insert:

SKIP 6,BUGHAD

1b

At SYSGO1, replace:

SYSGO1: SKIP 7,DIDSCI
SYSLOD: SETZ 7,

with:

SYSGO1: SETZ 6,
SKIP 7,DIDSCI
SYSLOD: SETZB 7,6

1c

Following SYSLOD+7 (BLT 1,SCDVE), insert:

HRRZM 6,BUGHLT
HLRZM 6,BUGCHK

1d

Monitor 1.29 Bug

(J10764) 19-JUN-72 15:27; Title: Author(s): Peter H. Lipman/PHL;
 Distribution: Thomas F. Knight, Edward R. Fiala, Charles W. Rose, David
 W. Shipman, James A. Moorner, Stan L. Mantiply, Rainer W. Schulz, Bob Van
 Tyul, Jeanne B. North, Robert L. Dendy, John T. Melvin, Kenneth E.
 Victor, John W. McConnell, Peggy M. Karp, Dan L. Murphy, Rod M.
 Fredrickson, Peter H. Lipman, Donald C. Wallace, Carl M. Ellison/TUG;
 Sub-Collections: NIC TUG; Clerk: RJR;
 Origin: <LIPMAN>BUGS.NLS;3, 19-JUN-72 15:24 RJR ;

EMC Notes June 19 1972

EMC MEETING NOTES JUNE 19, 1972

Present: DCE, WHP, RWW, JCN

Decisions:

Hire Dean Meyer, a UCSC student, who has worked at ARC in the summer before, for the summer primarily to work on helping DPCS get set up to produce NIC Func Documents, ARC's final report and other documents on COM. This will involve working with WLB, RWW, MFA, DVN and others on choosing fonts, establishing requirements on Output Processor, formatting, picking directives, etc.

Make an offer to Briana Burns to work for NIC to upgrade, update and handle NIC Functional Documents.

Order OF 10 channel RPIOC Controller and 2 RP02 Drives as per Delivery recommendation (10589,) if they can be placed on present disk contract.

Dump Bryand Disk.

Refer back to DCE for more study of Professor Edwin Parkers request to include NLS in his study of bibliographic systems.

Order 1 plasma display-nova for George Eilers and refer study of plasma display-nova to Delivery: DCE to write some requirements.

Other:

Inform ARC that George Eilers and others at SRI are making large proposal to ARPA on packet a communications system involving hand held consoles and that that project -- if it comes in -- has now outgrown the need to be directly connected to ARC.

Inform WHP of CIRAD agreement to exchange some WSD time for HGL's help there, about 3 days so far; to be used when needed.

Inform ARC that an extension for DIA has been ordered.

Review ICC conference commitments to date and preliminary discussion indicating DCE's feeling of value to be gained there by getting some NIC needs filled and demonstrating NLS and new developments in line with thrust planning. More discussion to take place at next PERC meeting.

EMC Notes June 19 1972

Review decisions to upgrade and finish more user an other documents as part of ARC's reporting package and for ICC Conference. JCN to coordinate.

4e

EMC Notes June 19 1972

(J10765) 19-JUN-72 15:55; Title: Author(s): Richard W. Watson/RWW;
Distribution: Joy A. Glenn, Kay F. Byrd, Ralph Prather, James E. White,
Augmentation Research Handbook, Jacques F. Vallee, Diane S. Kaye, Paul
Rech, Michael D. Kudlick, Don Limuti, William R. Ferguson, Priscilla
Lister, Linda L. Lane, Marilyn F. Auerbach, Walt Bass, Mary S. Church,
Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D.
Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B.
North, James C. Norton, Cindy Page, William H. Paxton, Jeffrey C.
Peters, Jake Ratliff, Barbara E. Row, Ed K. Van De Riet, Dirk H. van
Nouhuys, Kenneth E. Victor, Donald C. Wallace, Richard W. Watson, Don I.
Andrews/SRI-ARC; Sub-Collections: SRI-ARC SRI-ARC; Clerk: RWW;
Origin: <WATSON>EMCNOTES.NLS;2, 19-JUN-72 15:53 RWW ;