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AAA Eastern Region Computer Programs
and Problems NWS ERCP - No. 10



HELP FOR AFOS MESSAGE COMP

Scientific Services Division
Eastern Region Headquarters
May 1983

**U.S. DEPARTMENT OF
COMMERCE**

/ National Oceanic and
Atmospheric Administration

/ National Weather
Service

NOAA Technical Memorandum
National Weather Service, Eastern Region Computer Programs and Problems

The Eastern Region Computer Programs and Problems (ERCP) series is a subset of the Eastern Region Technical Memorandum series. It will serve as the vehicle for the transfer of information about fully documented AFOS applications programs. The format of ERCP - No. 1 will serve as the model for future issuances in this series.

- 1 An AFOS version of the Flash Flood Checklist. Cynthia M. Scott, March 1981. (PB81 211252).
- 2 An AFOS Applications Program to Compute Three-Hourly Stream Stages. Alan P. Blackburn, September 1981. (PB82 156886).
- 3 PUPPY (AFOS Hydrologic Data Reporting Program). Daniel P. Provost, December 1981. (PB82 199720).
- 4 Special Search Computer Program. Alan P. Blackburn, April 1982. (PB83 175455).
- 5 Conversion of ALEMBIC\$ Workbins. Alan P. Blackburn, October 1982. (PB83 138313).
- 6 Real-Time Quality Control of SAOs. John A. Billet, January 1983. (PB83 166082).
- 7 Automated Hourly Weather Collective from HRR Data Input. Lawrence Cedrone, January 1983. (PB83 167122).
- 8 Decoders for FRH, FTJ and FD Products. Cynthia M. Scott, February 1983. (PB83 176057).
- 9 Stability Analysis Program. Hugh M. Stone, March 1983. (PB83 197947).



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HELP FOR AFOS MESSAGE COMP
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May 1983

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HELP FOR AFOS MESSAGE COMP

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I. GENERAL INFORMATION

A. SUMMARY

SPRD and SQEZ are two programs that enhance AFOS message composition. SPRD provides a pseudo-scrolling function for AFOS--text can be scrolled down in a product by inserting any number of blank lines, allowing new text to be inserted later. SPRD will also move whole paragraphs so that they lie entirely on one page. This eliminates the problems encountered when trying to edit text that crosses a page boundary. SPRD is especially useful in splitting apart zones that were combined in a previous forecast.

SQEZ takes a product with lines longer than 72 characters and "squeezes" them to the 72 character limit for AFOS asynchronous transmission and teletypes. With AFOS, the operator must watch the line length carefully while typing in order not to exceed 72 characters, and adding or deleting text using "PAGE EDIT" can be a real nightmare. Like SPRD, SQEZ also allows you to add extra blank lines in order to insert new material. SQEZ can also be used as a substitute for XMIT to transmit products on the synchronous lines.

B. ENVIRONMENT

Both programs are written in Data General's FORTRAN IV and will run on the Eclipse/230 with AFOS up.

II. APPLICATION

A. COMPLETE PROGRAM DESCRIPTION

Both programs operate on any 5-page AFOS alphanumeric product, which is extracted from the data base via AFREAD.

SPRD searches for three or more consecutive underscore characters () in each line of the product and inserts that many blank lines after the line. The text line with the underscores is repeated after the blank lines (see sample inputs and outputs in section III). The program also searches for paragraphs that lie between two pages--by comparing the number of lines available on the page with the number of lines in the paragraph--and moves them so that they lie entirely on the second page. It expects paragraphs to be separated by blank lines in the input product. (The paragraph moving function can be disabled if desired.)

SQEZ also processes the product line by line. If the line is longer than 72 characters, SQEZ searches back for the first space before column 74 and writes all text following the space to the next line. If the next line in turn extends beyond 72 characters, that line is "squeezed", and so on. SQEZ recognizes two control characters: the underscore and the del (shift). It interprets the underscore as an end-of-line symbol--any text beyond the underscore is placed on the next line. If two or more consecutive underscores appear, that many blank lines are inserted. This feature can be used to conserve space in the input product, since the many short lines in headings can be combined on just one line with underscores between them. If an input product that runs over 5 pages has many short lines that can be combined in this way, the supplement feature of AFOS message composition won't be needed. The del can be used to maintain a number of blank lines in a product. Normal AFOS message composition eliminates blank lines at the bottom of the page and thus brings up paragraphs from the next page. If, for later editing, you want to keep paragraphs from being split on separate pages, put a del in the first column of the last line on the page. SQEZ will ignore any line beginning with a del and compress multiple blank lines to a single blank line.

SQEZ has a special feature for WRKFTA input products only. SQEZ will look for either \$ or {{< to see if the line is the first line in the terminal forecast. If those symbols are present, all subsequent lines in the forecast are indented one space.

Once all the editing is done, the output is stored back in the database. SPRD always writes the output to a WRK category product using the input product's category (NNN) as the output product designator (XXX)--unless another XXX is specified in the command line. The addressee is always 000. For example, the output from running SPRD on BUFZFPNY defaults to BUFWRKZFP. SQEZ' output options are more complex. SQEZ will normally store the output under the input product's keyname with a 000 address. Running SQEZ on BUFWRKBUF produces a new BUFWRKBUF in the local database. However, an optional address can be specified in the

run line. In that case, the output product would be stored back into the input product and sent to the address (ALL, a single station or a single region). (The transmitted product is not archived.) An optional output category (NNN) can also be specified in the run line. There are two special cases:

1. If an address is specified and the input product is a WRK product, the XXX of the WRK product is used as the output NNN. The output XXX is taken from the K--- in the input product's WOUS line unless the output NNN is EFP, SFP, ZFP, SWR or STP. In those cases a two-letter state id is used as a product designator. For example, if SQEZ is run on ALBWRKSPS with an ALL address, the output is stored in ALBSPSALB. If ALBWRKEFP were the input with an address specified, the output would be ALBEFPNY. If the NNN is GLF, PLF is always used as the XXX.

2. If the input product is WRKFTA, WRKTWB, WRKAIR, WRKSIG or WRKSLS, the output is always returned to the input WRK products with a 000 address.

B. MACHINE REQUIRMENTS

SPRD and SQUEZ will both run in 9K. SQEZ takes up 26 blocks of disk space, SPRD, 17. Both programs leave a workfile named SQEZOUT on DPO. Run time depends on site activity and length of the input product, but SQEZ runs in 20-25 seconds on average. SPRD will run in 15 to 45 seconds.

C. DATA BASE

Both programs access the data base via the AFREAD subroutine. The output is stored via FSTORE. The input product keyname is read from the run line, the output products vary as discussed above in part A.

III. PROCEDURES

A. INSTALLATION

Both programs should be installed on DPOF with links down from DPO. Both also need to be OEDITED to make them site-specific. In SQEZ.SV, OEDIT location 551 to the proper two-letter state id (to be used for the station's EFP, SFP, ZFP,

SWR and STP products). In SPRD.SV, locations 427 and 430 should be changed to the local CCC.

B. RUNNING SPRD.SV

Create the input product with AFOS message composition, using the underscore character to indicate the number and location of blank lines to be inserted. Be sure to separate paragraphs with a blank line. After storing the input product, type the following command line at an ADM to run SPRD:

```
RUN:SPRD CCCNNNXXX/X DSG/C
```

where CCCNNNXXX is the input product key, the optional global /X disables the paragraph-moving feature and DSG is an optional XXX for the output product (if this is not used the input NNN becomes the output XXX). The output NNN is always WRK.

SPRD error messages:

1. CANT OPEN FILE...SPRD couldn't get the input product from the database.
2. CANT READ FILE...SPRD couldn't read the input product product or it contained only a WOUS line. Recreate the product and rerun SPRD.

When finished, SPRD alerts the console with the output product name. See Figure 1 for a sample run of SPRD.

C. RUNNING SQEZ.SV

Again the input product is created via message composition. Use single underscores to indicate end of lines and multiple underscores to insert blank lines into the final text. If you want to maintain more than one blank line on a page, begin the blanks lines with the del character. Run SQEZ with the following command line:

```
RUN:SQEZ CCCNNNXXX ADR/A CAT/C
```

where CCCNNNXXX is the input product, the optional ADR is the address to send the product to (default is 000) and the optional CAT is the output NNN. If an output NNN is not specified, SQEZ returns the output to the input product--unless /A is used and the input product is a WRK product other than WRKFTA, WRKTWB, WRKAIR, WRKSIG or WRKSLS. Then the output NNN is the input XXX. The output XXX is taken from K--- in the WOUS

line unless it is a product that requires a two-letter state id as a designator--if so, the proper id is used. WRKFTA, WRKTWB, WRKAIR, WRKSIG and WRKSLS are always returned to the local input workbins.

SQEZ error messages:

1. NO TEXT...SQEZ either couldn't read the input product or the product contained only a WOUS line. Make another version of the product and rerun SQFZ.
2. WORD TOO LONG...There were 73 consecutive characters without a space.
3. CANT OPEN FILE...SQEZ couldn't get the product from the database.
4. CANT READ FILE...SQEZ couldn't read subsequent blocks of the input product.
5. CANT END FILE...SQEZ couldn't write the end-of-file character.
6. BAD NEW FILE...an illegal category was specified with /C or the octal edit for the two-letter state id wasn't done.

SQEZ generates a console alert giving the name of the output product when it successfully completes. See Figure 2 for a sample run of SQEZ.

D. CAUTIONS/RESTRICTIONS

1. If you change the WOUS line from K--- to RWRA, SQEZ may not work right. SQEZ looks for "K" to determine the length of the WOUS line and also gets the local station id from K---.
2. If you end a paragraph with an underscore in column 80 (the very last one) and leave the next line blank, SQEZ will not leave that line blank in the output. You must put an underscore in the first column in the blank line.
3. AFOS always changes columns 79 and 80 of the bottom line to spaces. Thus if you are "wrapping around" a line to the next page (i. e., the line extends beyond 73 characters), don't use that bottom line for text but put a del in the first column.

4. SPRD may have problems if the output product extends beyond 8 pages.

IV. COMPLETE PROGRAM LISTING

Program listings follow the figures.

BUFWRKBUF
WOU500 KBUF 101600

EXTENDED FORECAST FOR WESTERN NEW YORK
NATIONAL WEATHER SERVICE BUFFALO NY
400AM EST FRI DEC 10 1982

SUNDAY THROUGH TUESDAY
COLD<<<WITH SCATTERED FLURRIES EACH DAY.<<< LOWS 5 TO 10 SUNDAY...NEAR ZERO
MONDAY AND ABOUT 10 TUESDAY. HIGHS IN THE TEENS SUNDAY AND MONDAY AND IN
THE 20S TUESDAY.

PSF

BUFWRKBUF
WOU500 KBUF 010000

EXTENDED FORECAST FOR WESTERN NEW YORK
NATIONAL WEATHER SERVICE BUFFALO NY
400AM EST FRI DEC 10 1982

SUNDAY THROUGH TUESDAY
COLD<<<WITH SCATTERED FLURRIES EACH DAY.<<< LOWS 5 TO 10 SUNDAY...NEAR ZERO

COLD<<<WITH SCATTERED FLURRIES EACH DAY.<<< LOWS 5 TO 10 SUNDAY...NEAR ZERO

COLD<<<WITH SCATTERED FLURRIES EACH DAY.<<< LOWS 5 TO 10 SUNDAY...NEAR ZERO
MONDAY AND ABOUT 10 TUESDAY. HIGHS IN THE TEENS SUNDAY AND MONDAY AND IN
THE 20S TUESDAY.

Figure 1. Sample Input and Output for SPRD.

BUFWRKZFP
WOUS00 KBUF 041900

WESTERN NEW YORK ZONE FORECASTS
NATIONAL WEATHER SERVICE BUFFALO NY
430PM EDT SAT SEP 4 1982

NY00<NY01 SEVEN WESTERN COUNTIES<430PM EDT SAT SEP 4 1982<
.TONIGHT...PARTIAL CLEARING. LOW ABOUT 50 BUT COOLER IN SOME RURAL AREAS. LIGHT
SOUTHWEST WINDS.<.SUNDAY...MOSTLY SUNNY AND WARM. HIGH AROUND 75. SOUTHWEST WIN
DS 5 TO 15 MPH.<.SUNDAY NIGHT...INCREASING CLOUDINESS. LOW ABOUT 55.<.MONDAY...M
OSTLY CLOUDY WITH A 30 PERCENT CHANCE OF A SHOWER. HIGH 70 TO 75.<\$\$<

NY02 WESTERN FINGER LAKES REGION<NY05 EASTERN FINGER LAKES REGION<430PM EDT SAT
SEPT 4 1982<
.TONIGHT...PARTIAL CLEARING. LOW ABOUT 50 BUT COOLER IN SOME VALLEYS. LIGHT SOUT
HWEST WINDS.<.SUNDAY...MOSTLY SUNNY AND WARM. HIGH IN THE UPPER 70S. SOUTHWEST
WINDS 5 TO 15 MPH.<.SUNDAY NIGHT...INCREASING CLOUDS BY DAYBREAK. LOW ABOUT 55
<.MONDAY...BECOMING MOSTLY CLOUDY WITH A 30 PERCENT CHANCE OF A SHOWER. HIGH AB
OUT 75.<\$\$<

NY03 CENTRAL SOUTHERN TIER COUNTIES<430PM EDT SAT SEP 4 1982<
.TONIGHT...PARTIAL CLEARING WITH SOME PATCHY FOG. LOW ABOUT 50 BUT COOLER IN SOM

BUFWRKZFP
WOUS00 KBUF 041900

WESTERN NEW YORK ZONE FORECASTS
NATIONAL WEATHER SERVICE BUFFALO NY
430PM EDT SAT SEP 4 1982

NY00
NY01 SEVEN WESTERN COUNTIES
430PM EDT SAT SEP 4 1982
.TONIGHT...PARTIAL CLEARING. LOW ABOUT 50 BUT COOLER IN SOME RURAL
AREAS. LIGHT SOUTHWEST WINDS.
.SUNDAY...MOSTLY SUNNY AND WARM. HIGH AROUND 75. SOUTHWEST WINDS 5 TO 15
MPH.
.SUNDAY NIGHT...INCREASING CLOUDINESS. LOW ABOUT 55.
.MONDAY...MOSTLY CLOUDY WITH A 30 PERCENT CHANCE OF A SHOWER. HIGH 70 TO
75.<\$\$

NY02 WESTERN FINGER LAKES REGION
NY05 EASTERN FINGER LAKES REGION
430PM EDT SAT SEPT 4 1982
.TONIGHT...PARTIAL CLEARING. LOW ABOUT 50 BUT COOLER IN SOME VALLEYS.
LIGHT SOUTHWEST WINDS.
.SUNDAY...MOSTLY SUNNY AND WARM. HIGH IN THE UPPER 70S. SOUTHWEST
WINDS 5 TO 15 MPH.
.SUNDAY NIGHT...INCREASING CLOUDS BY DAYBREAK. LOW ABOUT 55.
.MONDAY...BECOMING MOSTLY CLOUDY WITH A 30 PERCENT CHANCE OF A SHOWER.
HIGH ABOUT 75.<\$\$

NY03 CENTRAL SOUTHERN TIER COUNTIES
430PM EDT SAT SEP 4 1982
.TONIGHT...PARTIAL CLEARING WITH SOME PATCHY FOG. LOW ABOUT 50 BUT
COOLER IN SOME VALLEYS. LIGHT VARIABLE WINDS.

Figure 2. Sample Input and Output for SQEZ.


```

C                               SPRD.FR
C
C   WRITTEN BY ALAN BLACKBURN, WSFO BUFFALO NY, DECEMBER 17, 1982
C
C   THIS PROGRAM LOOKS FOR 3 OR MORE CONSECUTIVE UNDERSCORE
C   CHARACTERS AND ADDS A BLANK LINE OF TEXT FOR EACH ONE IT FINDS
C
C   IT ALSO MOVES PARAGRAPHS WHICH ARE ON MORE THAN ONE PAGE ALL ON
C   THE NEXT PAGE. (DISABLE THIS FUNCTION WITH A /X LOCAL SWITCH)
C
C   LOAD LINE:  RLDR SPRD AFREAD.LB BG.LB UTIL.LB FORT.LB AFOSE.LB
C
C   SAMPLE COMMAND:  RUN:SPRD BUFZFPNY           OUTPUT: BUFWRKZFP
C                   RUN:SPRD BUFZFPNY/X        BUFWRKZFP
C                   RUN:SPRD BUFWRKSPS ZFP/C    BUFWRKZFP
C                   RUN:SPRD BUFWRKZFP         BUFWRKWRK
C

```

```

C   COMMON/HDR/IHDR(20)
C   DIMENSION IBPTR(2), IPROD(5), IP(41), IU(82), JBUF(50,83), IQ(41)
C   INTEGER DAT(7), SW(2)
C   DIMENSION IPRDO(5)
C   DATA IHDR/"BUFWRKMIS000",177777K,177777K,2400K,142600K,
C   2"WOUS00 KBUF 010000",6412K/
C   M2=6412K
C   NOPG=0
C

```

```

C.....GET THE NAME OF THE PRODUCT FROM ICE2.CM
C   CALL GCHN(IC, IER)
C   CALL OPENN(IC, "ICE2.CM", 0, IER)
C   IBPTR(1)=0
C   IBPTR(2)=5
C   CALL SPOS(IC, IBPTR, IER)
C   IPROD(5)=0
C   CALL RDS(IC, IPROD, 9, IER)
C   CALL KLOSE(IC, IER)
C

```

```

C.....LOOK FOR 8 CHARACTER PRODUCT
C   I=ISHFT(IPROD(5),-8)
C   IF(I.GE.48.AND.I.LE.57)GOTO 10
C   IF(I.GE.65.AND.I.LE.90)GOTO 10
C   IPROD(5)=20000K ; SET 9TH CHAR. TO SPACE
C

```

```

C.....SET IHDR FROM IPROD
10  IHDR(4)=IOR(ISHFT(IPROD(2),8), ISHFT(IPROD(3),-8))
    IHDR(5)=IOR(ISHFT(IPROD(3),8), IAND(IHDR(5),377K))
C

```

```

C.....LOOK FOR SWITCHES
C   CALL FCOM(IC, IER)
C   CALL COMCM(IC, DAT, N, SW, IER)
C   IF(IER.EQ.9)GOTO 45
C   IF(ISWSE(SW, "X"))GOTO 30
C   IF(ISWSE(SW, "C"))GOTO 40
C   GOTO 20
30  NOPG=1 ; DON'T MOVE PARAGRAPHS
    GOTO 20
C

```

```

C
C
C.....RESET CATEGORY
40  IHDR(4)=DAT(1)
    IHDR(5)=IOR(IAND(DAT(2),177400K),48)
45  DO 50 I=1,4
50  IPRDO(I)=IHDR(I)                ; CHANGE OUTPUT MESSAGE
    IPRDO(5)=0
    IPRDO(5)=IOR(IAND(IHDR(5),177400K),IPRDO(5))

C
C
C.....GET SQUEZOUT READY
    CALL GCHN(IC2,IER)
    CALL DFILW("SQUEZOUT",IER)
    CALL CRAND("SQUEZOUT",IER)
    CALL OPENN(IC2,"SQUEZOUT",IER)

C
C
    CALL WRS(IC2,IHDR,40,IER)        ; WRITE IHDR TO SQUEZOUT

C
    M=0                             ; SET PRIOR LINEFEED
    LN=2                             ; SET LINE NUMBER
    LP=0                             ; SET PARAGRAPH LINE NUMBER

C
C
    CALL AFREAD(1,IPROD,$900)        ; OPEN THE PRODUCT
100  CALL AFREAD(2,IP,$700,$910)    ; READ A LINE
    CALL UNPACK(IP,80,IU)
    IF(NOPG.NE.1)GOTO 190
    CALL WRS(IC2,IP,80,IER)          ; WRITE THE LINE

C
C
C.....LOOK FOR UNDERSCORES
    DO 150 I=1,80
        IF(IU(I).NE.95.AND.M.LE.2)GOTO 140
        IF(IU(I).EQ.95)GOTO 130

C
C.....ADD CR/LF'S
    DO 120 J=1,M
120  CALL WRS(IC2,M2,2,IER)
    CALL WRS(IC2,IP,80,IER)          ; WRITE THE LINE AGAIN
    GOTO 140
130  M=M+1
    GOTO 150
140  M=0
150  CONTINUE
    GOTO 100

C
C
190  CONTINUE
C.....FIND # OF CHARACTERS ON THE LINE
    DO 200 I=1,80
        NC=81-I
        IF(IU(I).NE.32)GOTO 210
200  CONTINUE
    GOTO 225
210  CONTINUE
    LP=LP+1
    DO 220 I=1,80
220  JBUF(LP,I)=IU(I)                ; PUT LINE IN JBUF

```



```

GOTO 300
C
C
C.....LINE IS BLANK: WRITE BUFFER TO SQUEZOUT
225 CONTINUE
    DO 240 I=1,LP
        DO 230 J=1,80
230     IU(J)=JBUF(I,J) ; PUT LINE IN IU
        CALL PACK(IU,80,IQ) ; PUT LINE IN IQ
240     CALL WRS(IC2,IQ,80,IER) ; WRITE LINE
        CALL WRS(IC2,M2,2,IER) ; WRITE CR/LF FOR BLANK LINE
C
C
    IF(M.LT.3)GOTO 290
    DO 260 I=1,M
        CALL WRS(IC2,M2,2,IER) ; WRITE CRLF FOR UNDERSCORES
260 CONTINUE ; FROM PREVIOUS LINE
    LN=LN+M
C
C
290 M=0
    LN=LN+LP+1
    LP=0
    GOTO 100
C
C
C.....LINE IS NOT BLANK
300 CONTINUE
C.....LOOK FOR UNDERSCORES
    DO 350 I=1,80
        IF(IU(I).NE.95.AND.M.LE.2)GOTO 330
        IF(IU(I).EQ.95)GOTO 340
C
C
C.....END OF UNDERSCORES: WRITE BUFFER TO SQUEZOUT
    DO 320 K=1,LP
        DO 310 J=1,80
310     IU(J)=JBUF(K,J) ; PUT LINE IN IU
        CALL PACK(IU,80,IQ) ; PUT LINE IN IQ
320     CALL WRS(IC2,IQ,80,IER) ; WRITE LINE
    DO 322 J=1,80
322     JBUF(1,J)=JBUF(LP,J) ; PUT LAST LINE IN BUFFER
        LN=LN+LP ; INCREMENT LINE *
        LP=1 ; RESET PARAGRAPH LINE *
C
C
C.....ADD CR/LF'S FOR UNDERSCORES
    DO 325 J=1,M
325     CALL WRS(IC2,M2,2,IER) ; WRITE CR/LF
        LN=LN+M ; INCREMENT LINE *
330     M=0 ; RESET UNDERSCORE COUNTER
        GOTO 350
340     M=M+1
350 CONTINUE
        IF(LP.LE.1)GOTO 100 ; READ NEXT LINE IF BUFFER
                                EMPTY
C
C
C
    LA=LN+LP ; LA IS TOTAL LINES SO FAR
    IF(LA.NE.24.AND.LA.NE.47.AND.LA.NE.70.AND.LA.NE.93)GOTO 100

```

```

C
C
C.....PARAGRAPH RAN OVER TO THE NEXT PAGE
      IF(LA.EQ.24.AND.LP.EQ.22)GOTO 420
      IF(LP.EQ.24)GOTO 420
C
C
C.....MOVE PARAGRAPH TO NEXT PAGE BY WRITING CR/LF'S
      DO 410 I=1,LP
410   CALL WRS(IC2,M2,2,IER)
      LN=LA
      GOTO 100
C
C
C.....PARAGRAPH TAKES UP A FULL PAGE:  WRITE IT AND DON'T MOVE IT
C.....WRITE BUFFER TO SQUEZOUT
420   CONTINUE
      DO 440 I=1,LP
          J2=JBUF(I,83)
          DO 430 J=1,J2
430     IU(J)=JBUF(I,J)           ; PUT LINE IN IU
          CALL PACK(IU,JBUF(I,83),IQ) ; PUT LINE IN IQ
440     CALL WRS(IC2,IQ,JBUF(I,83),IER) ; WRITE LINE
      LN=LN+LP
      LP=0
      IF(M4.EQ.1)GOTO 700
      GOTO 100
C
C
C.....OUT OF TEXT:  FINISH UP WITH OCTAL 203
700   M4=1
      IF(LP.NE.0)GOTO 420
      M3=101603K
      CALL WRS(IC2,M3,2,IER)
      CALL KLOSE(IC2,IER)
C
C
C.....STORE THE PRODUCT AND ALERT THE ADM
      CALL FSTORE("SQUEZOUT",0,IER)
      CALL FORKO("SPRD",IPRODO,IER)
      STOP
C
C
C.....ABORT MESSAGES
900   CALL FORKE("SPRD","CANT OPEN FILE",IER)
905   CALL KLOSE(IC2,IER)
      STOP
910   CALL FORKE("SPRD","CANT READ FILE",IER)
      GOTO 905
      END

```



```

CALL RDS(IC, IPROD, 9, IER)
DO 5 J=1,5
5   IPRDN(J)=IPROD(J)
CALL UNPACK(IPROD, 9, IPRDU)
C
C
C.....GET STATION FROM WOUS LINE OF IPROD
CALL KSRCF(IPROD, KRC, IER)
CALL RDBKF(0, ID, IER)
ISTN(1)=IOR(ISHFT(ID(17), 8), ISHFT(ID(18), -8))
ISTN(2)=ISHFT(ID(18), 8)+32
IF(ISTN(2).NE." ")GOTO 7
ISTN(1)=ID(17)
ISTN(2)=ID(18)
C
C
C.....PUT WOUS LINE FROM IPROD INTO IHDR
7   DO 8 J=11,19
8   IHDR(J)=IOR(ISHFT(ID(J+2), 8), ISHFT(ID(J+3), -8))
IF(IHDR(14).NE." K")NW=NW-1
C
C
C.....GET SQUEZOUT READY
CALL GCHN(IC2, IER)
CALL DFILW("SQUEZOUT", IER)
CALL CRAND("SQUEZOUT", IER)
CALL OPENN(IC2, "SQUEZOUT", IER)
C
C
C.....LOOK FOR ADDRESSEE AND NEW CATEGORY SWITCHES
CALL FCOM(IC, IER)
10  CALL COMCM(IC, DAT, N, SW, IER)
IF(IER.EQ.9)GOTO 40
IF(ISWSE(SW, "A"))GOTO 20
IF(ISWSE(SW, "C"))GOTO 35
GOTO 10
C
C
C.....SELECT ADDRESSEE
20  LA=1
IF(N.NE.2)GOTO 30 ; ALL OR SINGLE STATION?
IHDR(5)=IOR(IAND(177400K, IHDR(5)), ISHFT(DAT(1), -8))
IHDR(6)=" "
GOTO 10
30  IHDR(5)=IOR(ISHFT(DAT(1), -8), IAND(177400K, IHDR(5)))
IHDR(6)=IOR(ISHFT(DAT(1), 8), ISHFT(DAT(2), -8))
GOTO 10
C
C
C.....CHANGE CATEGORY
35  LC=1
IPRODN(2)=IOR(IAND(177400K, IPRDN(2)), ISHFT(DAT(1), -8))
IPRODN(3)=IOR(ISHFT(DAT(1), 8), ISHFT(DAT(2), -8))
CALL UNPACK(IPRODN, 9, IPRDU)
GOTO 10
C
C
40  CALL KLOSE(IC, IER)
IF(LC.EQ.1)GOTO 41
IF(LA.EQ.0)GOTO 100

```



```

C.....IF WRK FILE PUT IN HEADER
      IF(IPRODU(3).NE.87.AND.IPRODN(3).NE."RK")GOTO 60
C.....IF FTA, TWB, AIR, SIG OR SLS OUTPUT TO THE WRK FILE
41   IF(((IPRODN(4).EQ."FT".AND.IPRODU(9).EQ.65)
      2.OR.(IPRODN(4).EQ."TW".AND.IPRODU(9).EQ.66)
      3.OR.(IPRODN(4).EQ."AI".AND.IPRODU(9).EQ.82)
      4.OR.(IPRODN(4).EQ."SI".AND.IPRODU(9).EQ.71)
      5.OR.(IPRODN(4).EQ."SL".AND.IPRODU(9).EQ.83))GOTO 100
C
C
C.....CONVERT NNN TO XXX
      IF(LC.EQ.1)GOTO 43
      DO 42 J=1,3
42   IPRODU(3+J)=IPRODU(6+J)
C
C
C.....CONVERT XXX TO STATION
43   IPRODU(7)=ISHFT(ISTN(1),-8)
      IPRODU(8)=IAND(377K,ISTN(1))
      IPRODU(9)=ISHFT(ISTN(2),-8)
C
C
C.....IF NNN IS GLF MAKE XXX PLF
      IF(IPRODU(4).NE.71.OR.IPRODU(5).NE.76.OR.IPRODU(6).NE.70)GOTO 44
      IPRODU(7)=80
      IPRODU(8)=76
      IPRODU(9)=70
C
C
C.....IF NNN IS EFP, SFP, ZFP, SWR OR STP PUT STATE IN XXX
44   IF(((IPRODU(4).NE.69.OR.IPRODU(5).NE.70.OR.IPRODU(6).NE.80)
      2.AND.(IPRODU(4).NE.83.OR.IPRODU(5).NE.70.OR.IPRODU(6).NE.80)
      3.AND.(IPRODU(4).NE.90.OR.IPRODU(5).NE.70.OR.IPRODU(6).NE.80)
      4.AND.(IPRODU(4).NE.83.OR.IPRODU(5).NE.87.OR.IPRODU(6).NE.82)
      5.AND.(IPRODU(4).NE.83.OR.IPRODU(5).NE.84.OR.IPRODU(6).NE.80))
      6GOTO 60
      IPRODU(7)=ISHFT(ISTATE,-8)
      IPRODU(8)=IAND(377K,ISTATE)
      IPRODU(9)=32
C
C
C.....GET SYNCHRONOUS PRIORITY FROM DATAKEY0
60   IPRODN(5)=0
      CALL PACK(IPRODU,9,IPRODN)
      CALL KSRCF(IPRODN,KRC,IER)
      IF(IER.NE.1)GOTO 80
      IHDR(9)=ISHFT(IAND(70K,KRC(5)),5)
C
C
C.....WRITE HEADER FOR ADDRESSED PRODUCTS
      DO 65 J=1,4
65   IHDR(J)=IPRODN(J)
      IHDR(5)=IOR(IAND(177400K,IPRODN(5)),IAND(377K,IHDR(5)))
      GOTO 120
C
C
80   CALL FORKE("PART 1","BAD NEW FILE",IER)
      DO 85 J=1,5
85   IPRODN(J)=IPROD(J)
      IHDR(6)="00"

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K2=N+NX-NP
IF(K2.EQ.0)GOTO 272
DO 270 J=1,K2
270   IXU2(J)=IXU(J+NP)           ; PUT REST OF LINE IN IXU2
272   IXU(NP)=15K
      IXU(NP+1)=12K
      CALL PACK(IXU,(NP+1),IXP)
      CALL WRS(IC2,IXP,(NP+1),IER)
      IF(NP.NE.1)LT=1
      L=0
      L1=0
      IF(NP.NE.(N+NX))GOTO 273
      NX=K2
      IF(NX.NE.0)GOTO 245
      GOTO 200
273   NX=N+NX-NP
800   IF(IXU2(1).NE.32)GOTO 820   ; REMOVE SPACES FROM START
      NX=NX-1                     ; OF LEFTOVERS
      IF(NX.EQ.0)GOTO 200
      DO 810 J=1,NX
810   IXU2(J)=IXU2(J+1)
      GOTO 800
820   N=0
      NP=0
      IF(N2.EQ.80)GOTO 275        ; DO WE NEED SPACES?
      IF(IXU2(NX).EQ.95)GOTO 275 ; DON'T ADD SPACES AFTER ←
      IF(L4.EQ.1)GOTO 275        ; DONT ADD'EM AGAIN
      L4=1
      NX=NX+1
      IXU2(NX)=32                ; ADD SPACE AT END OF LINE
      IF(N2.NE.78.OR.IU(78).NE.46)GOTO 275
      NX=NX+1
      IXU2(NX)=32                ; ADD A SPACE AFTER A PERIOD
275   IF(IPROD(4).NE."FT".AND.ISHFT(IPROD(5),-8).NE.65)GOTO 277
      IF(IXU2(1).EQ.36)GOTO 277
      IF(IXU2(1).EQ.123.AND.IXU2(2).EQ.123.AND.IXU2(3).EQ.60)GOTO 277
      IXU(1)=32                  ; INDENT FT IF NOT FIRST LINE
      L=1
277   DO 280 J=1,NX
280   IXU(J+L)=IXU2(J+L)       ; PUT LEFTOVERS AT START OF NEXT LINE
      NX=NX+L
      GOTO 245
C
C
300   IF(L3.EQ.1)GOTO 310
C.....SIMPLE LINE WRAP-UP
305   IXU(N+NX+1)=15K
      IXU(N+NX+2)=12K
      CALL PACK(IXU,(N+NX+2),IXP)
      CALL WRS(IC2,IXP,(N+NX+2),IER)
      LT=1
      L1=0
      L3=0
      NX=0
      GOTO 200
C
C
310   IF(IXU(73).NE.95)GOTO 315
      NS=73
      GOTO 330

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C.....SEARCH FOR THE LAST SPACE BEFORE CHARACTER 74
315 DO 320 J=1,73
      NS=74-J
      IF(IXU(NS).EQ.32)GOTO 330
320 CONTINUE
      GOTO 920 ; WORD OVER 72 CHARACTERS
330 K=N+NX-NS
      IF(K.GT.0)GOTO 335
      IF(IXU(N+NX).EQ.95)N=N-1
      GOTO 305
335 DO 340 J=1,K
340 IXU2(J)=IXU(J+NS) ; PUT LEFTOVERS IN IXU2
      NX=K
      IXU(NS)=15K
      IXU(NS+1)=12K
      CALL PACK(IXU,(NS+1),IXP)
      CALL WRS(IC2,IXP,(NS+1),IXP)
341 IF(IXU2(1).NE.32)GOTO 343 ; REMOVE SPACE FROM START
      NX=NX-1 ; OF LINE
      IF(NX.EQ.0)GOTO 200
      DO 342 J=1,NX
342 IXU2(J)=IXU2(J+1)
      GOTO 341
343 LT=1
      L=0
      L1=0
      IF(N2.EQ.00)GOTO 345 ; DO WE NEED SPACES?
      IF(IXU2(NX).EQ.95)GOTO 345 ; NO SPACES AFTER ←
      IF(L4.EQ.1)GOTO 345 ; DONT ADD'EM AGAIN
      L4=1
      NX=NX+1
      IXU2(NX)=32 ; ADD SPACE AT END OF LINE
      IF(N2.NE.78.OR.IU(78).NE.46)GOTO 345
      NX=NX+1
      IXU2(NX)=32 ; ADD SPACE AFTER PERIOD
345 IF(IPROD(4).NE."FT".AND.(ISHFT(IPROD(5),-8).NE.65))GOTO 350
      IF(IXU2(1).EQ.36)GOTO 350
      IF(IXU2(1).EQ.123.AND.IXU2(2).EQ.123.AND.IXU2(3).EQ.60)GOTO 350
      IXU(1)=32 ; INDENT FT IF NOT FIRST LINE
      L=1
350 DO 360 J=1,NX
360 IXU(J+L)=IXU2(J) ; PUT LEFTOVERS AT START OF NEW LINE
      NX=NX+L
      N=0
      IF(IXU(NX).EQ.95)GOTO 245
      IF(NX.LT.73)GOTO 200 ; MORE THAN 72 LEFTOVERS?
      M1=0
      GOTO 245

C
C
C.....OUT OF TEXT: FINISH UP WITH OCTAL 203
700 IXP(1)=101630K
      IF(LT.EQ.0)GOTO 930
      CALL WRS(IC2,IXP,2,IER)
      IF(IER.NE.1)GOTO 940
      CALL KLOSE(IC2,IER)

C
C
C.....STORE THE PRODUCT
      CALL FSTORE("SQEZOUT",0,IER)

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CALL FORKO("SQEZ", IPRDN, IER)
STOP
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C
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C
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C.....ABORT MESSAGES
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900 CALL FORKE("SQEZ", "CANT OPEN FILE", IER)
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905 CALL KLOSE(IC2, IER)
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STOP
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910 CALL FORKE("SQEZ", "CANT READ FILE", IER)
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GOTO 905
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920 CALL FORKE("SQEZ", "WORD TOO LONG", IER)
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GOTO 905
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930 CALL FORKE("SQEZ", "NO TEXT", IER)
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GOTO 905
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940 CALL FORKE("SQEZ", "CANT END FILE", IER)
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GOTO 905
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END
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