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LONG RANGE PLANNING SYSTEM/WORKLOAD GRAPH INTERFACE PROGRAMS.(U)
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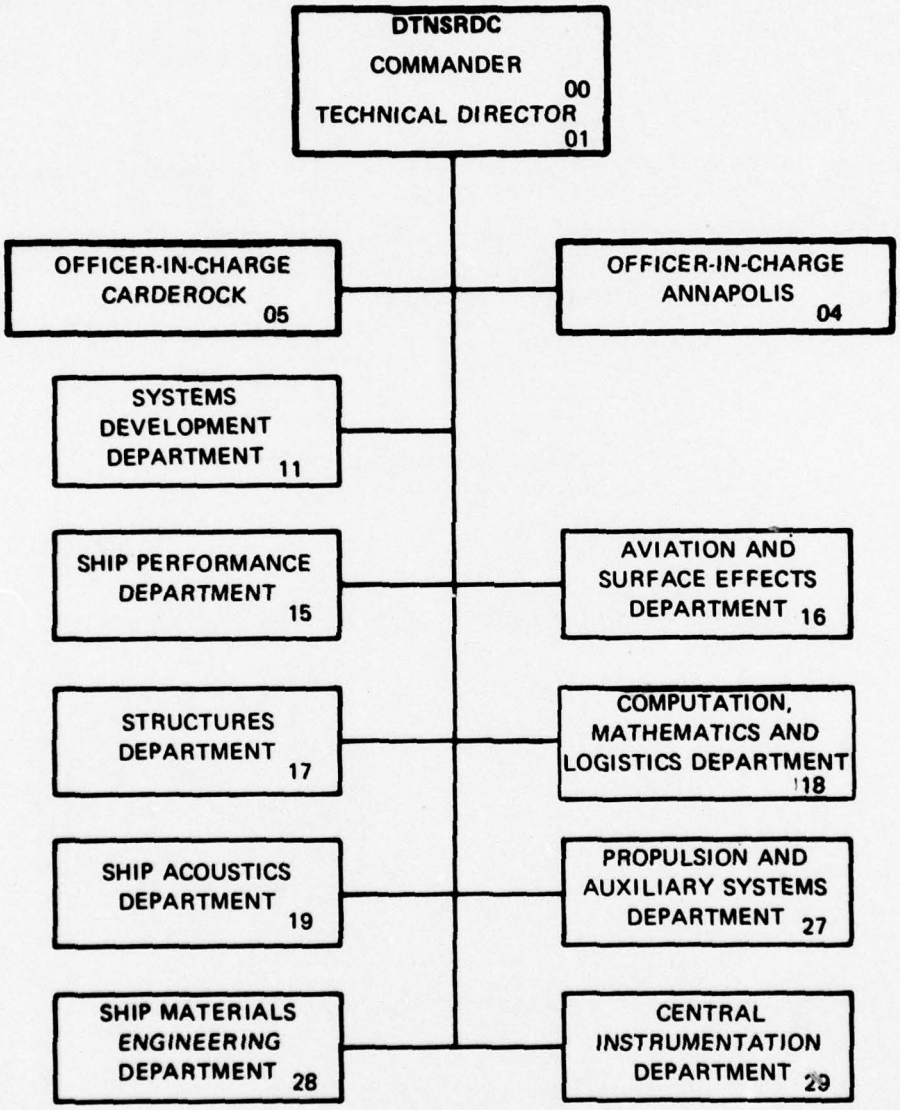

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This report describes a mini-system of four computer programs which form the interface between two existing systems of the Naval Sea Systems Command. The mini-system provides a means of producing workload summary graphs from the shipyard overhaul schedule of the Long Range Planning System. The programs are written in FORTRAN IV and are capable of running on either the IBM 360/370 or the CDC 6000 series computers.

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ABSTRACT

This report describes a mini-system of four computer programs which form the interface between two existing systems of the Naval Sea Systems Command. The mini-system provides a means of producing workload summary graphs from the shipyard overhaul schedule of the Long Range Planning System. The programs are written in FORTRAN IV and are capable of running on either the IBM 360/370 or the CDC 6000 series computers.

INTRODUCTION

A mini-system consisting of four programs was developed by the David W. Taylor Naval Ship R&D Center (DTNSRDC) Code 187 as an interface between files by the Depot Maintenance and Long Range Planning Branch (SEA 0712) of the Naval Sea Systems Command and graph-producing programs of the Workload and Overhaul Scheduling Branch (SEA 0711). The system was developed in response to a request by SEA 0712 for a means of using the Long Range Planning System (LRPS) schedule of availabilities to obtain the workload summary graphs produced by programs of SEA 0711's Short Range System.

One of the programs of the interface (LRPSCF) extracts information from the LRPS Assignment Files for a selected time period and for specified sectors (i.e., groups of shipyards by geographical location and yard ownership). It prepares output files containing the extracted information. One of the output files is in the format of the Common Overhaul File (COF). This file may then be input into the workload summary graph programs which display the monthly manpower requirements by shipyard and provide a Graph chart of the shipyard's availabilities. The other files created by LRPSCF are in the format of the LRPS Run Files. As many as four such files may be created - one for each sector specified by the user. The type select and priority fields are set equal to "1" for all availabilities on the files.

A second program, PRCOF, prints the Common Overhaul File in a readable format with column headings. In addition, it re-computes the fiscal year of the availability start date and re-numbers the records sequentially. To facilitate use, the file is sorted (prior to PRCOF) by ship type, hull number, and sequence number.

The third program, UPCOF, is used to update the COF. The updating may involve changes to existing records on the file, deletions of records from the file, or additions of new records to the file. Only one card is required to completely define each update operation. The card indicates the nature of the update (add, delete, or change), the record to be updated (for changes or deletions), and the parameters to be updated (for changes or additions). Specification of the record is by ship type, hull

number, and sequence number. New records (i.e., additions to the file) are input to the UPCOF program in the format of the LRPS Run File records.

The cards which indicate changes to be made to existing COF records are also punched in the Run File format. In this case, the user need only specify the particular fields he wishes to change; all other fields will remain as they were on the COF.

Output of the UPCOF program is a detailed account of the update operations performed, and an indication of any errors encountered in the update deck. When the user is satisfied with the updating performed by UPCOF, the PRCOF program and its sort routine should be run to recompute the fiscal year, renumber the records, and print the revised file.

The revised COF may then be re-run through the workload summary graph programs and, if necessary, the entire updating process may be repeated until the user is satisfied with the workload curves. At this point, the cards used to update the COF may be input to the fourth program documented in this report - the UPRUN program - to update the Run Files created by the LRPSCF program. The updated Run Files may then be input to NAVSEA's SCHED program to produce revised Assignment Files. Since type select was pre-set to "1" (by LRPSCF) for all availabilities on the Run Files, SCHED will not change the Run File yard assignments (unless the yard's dry dock or manpower constraints would be violated by the assignment).

PROGRAM LRPSCF

DESCRIPTION

The program LRPSCF extracts records from the Long Range Planning System (LRPS) Assignment Files and prepares output files in the formats of the LRPS Run Files and the Common Overhaul File (COF). Card input to the program specifies the "extraction period" dates. Any availabilities on the LRPS Assignment Files which overlap with the extraction period are included on the Run Files and the COF. An additional input specifies the sector(s) (NE, NW, PE, or PW) from which data are to be extracted from the Assignment Files. It is possible to process only one sector at a time, or to process any of the following combinations of sectors:

- East coast sectors (NE and PE)
- West coast sectors (NW AND PW)
- Navy yards (NE and NW)
- Private yards (PE and PW)
- All sectors (NE, NW, PE, and PW)

LRPSCF creates one Run File for each sector requested by the user. Only one COF, however, is created. It contains the availabilities from all the requested sectors.

LRPSCF discards any records for availabilities not within the extraction period, discards all but the lead record for each availability, converts the LRPS relative dates to Gregorian dates, converts the shipyard designation from numeric to alphabetic, and computes repair mandays from the percent alterations figure. In creating the Run Files, LRPSCF pre-sets the values for the type select and priority fields to "1" for each availability.

Figure 1 presents the hierarchical diagram of the LRPSCF program.

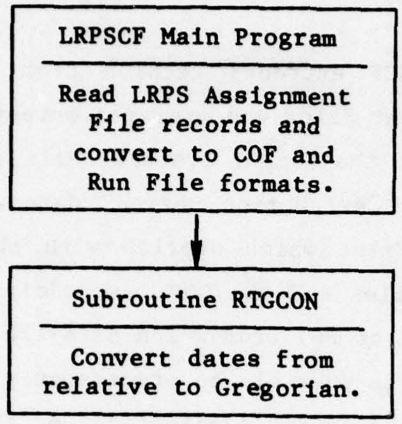

Figure 1 - Hierarchical Diagram of the LRPSCF Program

RUN SET-UP

The following set-up is used to run the LRPSCF program on the IBM 360/370 computer:

```
//NVSLRCF  JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC PGM=LRPSCF                                   (EXECUTE PROGRAM LRPSCF)
//GO.FT05F001 DD *                                             (CARD INPUTS)

      LRPSCF CARD INPUTS

//GO.FT06F001 DD SYSOUT=A                                  (PRINTED OUTPUT)
//GO.FT01F001 DD DSN={LRPS ASSIGNMENT FILE - NE},DISP=SHR (INPUT FILE)
//GO.FT02F001 DD DSN={LRPS ASSIGNMENT FILE - NW},DISP=SHR (INPUT FILE)
//GO.FT03F001 DD DSN={LRPS ASSIGNMENT FILE - PE},DISP=SHR (INPUT FILE)
//GO.FT04F001 DD DSN={LRPS ASSIGNMENT FILE - PW},DISP=SHR (INPUT FILE)
//GO.FT07F001 DD DSN={COMMON OVERHAUL FILE},DISP=SHR      (OUTPUT FILE)
//GO.FT11F001 DD DSN=&&NERF,DISP=(,PASS),UNIT=SYSDA,       (OUTPUT FILE)
// SPACE=(840,200),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)
//GO.FT12F001 DD DSN=&&NWRF,DISP=(,PASS),UNIT=SYSDA,       (OUTPUT FILE)
// SPACE=(840,200),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)
//GO.FT13F001 DD DSN=&&PERF,DISP=(,PASS),UNIT=SYSDA,       (OUTPUT FILE)
// SPACE=(840,150),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)
//GO.FT14F001 DD DSN=&&PWRF,DISP=(,PASS),UNIT=SYSDA,       (OUTPUT FILE)
// SPACE=(840,150),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)
```

```
// EXEC SDA                                                    (SORT NE RUN FILE)
//SORTIN DD DSN=&&NERF,DISP=(OLD,DELETE)
//SORTOUT DD DSN={NE RUN FILE},DISP=SHR
//SYSIN DD *    (SORT BY SECTOR, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(73,2,A,1,9,A,33,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                                          (PRINT NE RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={NE RUN FILE},DISP=SHR
//SYSUT2 DD SYSOUT=A,DCB=BLKSIZE=134

// EXEC SDA                                                    (SORT NW RUN FILE)
//SORTIN DD DSN=&&NWRF,DISP=(OLD,DELETE)
//SORTOUT DD DSN={NW RUN FILE},DISP=SHR
//SYSIN DD *    (SORT BY SECTOR, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(73,2,A,1,9,A,33,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                                          (PRINT NW RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={NW RUN FILE},DISP=SHR
//SYSUT2 DD SYSOUT=A,DCB=BLKSIZE=134

// EXEC SDA                                                    (SORT PE RUN FILE)
//SORTIN DD DSN=&&PERF,DISP=(OLD,DELETE)
//SORTOUT DD DSN={PE RUN FILE},DISP=SHR
//SYSIN DD *    (SORT BY SECTOR, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(73,2,A,1,9,A,33,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                                          (PRINT PE RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={PE RUN FILE},DISP=SHR
//SYSUT2 DD SYSOUT=A,DCB=BLKSIZE=134

// EXEC SDA                                                    (SORT PW RUN FILE)
//SORTIN DD DSN=&&PWRF,DISP=(OLD,DELETE)
//SORTOUT DD DSN={PW RUN FILE},DISP=SHR
//SYSIN DD *    (SORT BY SECTOR, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(73,2,A,1,9,A,33,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                                          (PRINT PW RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={PW RUN FILE},DISP=SHR
//SYSUT2 DD SYSOUT=A,DCB=BLKSIZE=134
```

INPUT/OUTPUT

The following units are used by the LRPSCF program:

Unit 1 - Input - LRPS Assignment File, NE

Unit 2 - Input - LRPS Assignment File, NW

Unit 3 - Input - LRPS Assignment File, PE

Unit 4 - Input - LRPS Assignment File, PW

Unit 5 - Input - Card inputs which specify the run date, extraction period, and desired sectors

Unit 6 - Output - List of LRPS Assignment files processed

Unit 7 - Output - Common Overhaul File

Unit 11- Output - LRPS Run File, NE

Unit 12- Output - LRPS Run File, NW

Unit 13- Output - LRPS Run File, PE

Unit 14- Output - LRPS Run File, PW

An example of the unit 6 printout is given on page 32.

"LRPSCF" CARD INPUT

(Unit 5)

Identification Card (one card)

CARD COLUMN	FORMAT	FIELD CONTENTS	
1	I2	Month	Run date
3	"/"		
	I2	Day	
6	"/"		
	I2	Year	
8	1X		
10	A1	"N" (Navy); "P" (private); or "B" (both)	
11	A1	Coast indicator ("E", "W", or "B")	
	2X		
14			
.	A18	Run File name	
.			
.			
31			
32	I4	File number	NE Run File
35			
36	A3	File version	
38			
39	I4	File number	NW Run File
42			
43	A3	File version	
45			

Identification Card (continued)

CARD COLUMN	FORMAT	FIELD CONTENTS	
46	I4	File number	PE Run File
49			
50	A3	File version	
52			
53	I4	File number	PW Run File
56			
57	A3	File version	
59			

Extraction Period (one card)

CARD COLUMN	FORMAT	FIELD CONTENTS	
1	"E"		
	"X"		
	"T"		
	"R"		
	"A"		
	"C"		
	"T"		
	"I"		
	"O"		
	"N"		
	"P"		
	"E"		
	"R"		
	"I"		
	"O"		
	"D"		
	":"		
19			
20	I2	Month	Start date of extraction period
22	"/"		
	I2	Day	
25	"/"		
	I2	Year	
27			
29	"-"		
31	I2	Month	End date of extraction period
33	"/"		
	I2	Day	
36	"/"		
	I2	Year	
38			

LRPS ASSIGNMENT FILES

(One file for each sector: Units 1-4 - "LRPSCF" Input)

Header Records (four records)

First Header Record

RECORD POS.	FORMAT		FIELD CONTENTS
1	"0"		
	"0"		
	"0"		
4	"1"		
5			
.		.	.
.	16X	.	.
.		.	.
20			
21			
	A5	Shipyard	
25			
	1X		
27			
	A5	Shipyard	
31			
	1X		List of valid shipyards
33			
			(max of 10)
.	.	.	.
.	.	.	.
.	.	.	.
73			
	1X		
75			
	A5	Shipyard	
79			

Second and Third Header Records

RECORD POS.	FORMAT	FIELD CONTENTS	
1	"0"		
	"0"		
	"0"		
4	I1	Header record number ("2" or "3")	
5			
.		.	.
.	16X	.	.
.		.	.
20			
21			
22	I2	Fiscal year	
	"-"		
24		Semi-annual period	
25	A2	("I" or "II")	
	1X		
27			
28	I2	Fiscal year	
	"-"		List of valid
30		Semi-annual period	
31	A2	("I" or "II")	fiscal years
	1X		
33			and semi-annual
			periods
.	.	.	.
.	.	.	(up to 10 per record) .
.	.	.	.
73			
	1X		
75			
76	I2	Fiscal year	
	"-"		
78		Semi-annual period	
79	A2	("I" or "II")	

Fourth Header Record

RECORD POS.	FORMAT	FIELD CONTENTS
1	"0"	
	"0"	
	"0"	
4	"4"	
5	A12	Title of file
16		
17	A12	Classification of data
28		
29	I2	First calendar year of data
30		

Availability Records (one record for each six-month period of each availability)

RECORD POS.	FORMAT	FIELD CONTENTS
1 2	I2	Shipyard number (corresponds to list of yards on first header record)
3 4	I2	Period number (corresponds to list of FY/periods on second & third header records)
5 7	A3	Dock
8 10	A3	Continuation indicator (contains "(C)" if record is not the first for this avail.)
11 14	A4	Ship type
	1X	
16 19	I4	Hull number
20 24	A5	Homeport
25 27	I3	Dock days (this period)
28 34	I7	PSP mandays (this period)
35 38	I4	Relative start date*
39 42	I4	Relative end date*

* Relative dates are the number of days since 1 October of the year indicated on the fourth header record.

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS
43 44	I2	Dock class
45 46	I2	Dock period
47 48	I2	Undock period
49 52	A4	Specialization category
53 54	I2	Labor distribution histogram
55 58	I4	Dock days (total for the availability)
59 65	I7	PSP mandays (total for the availability)
66 68	A3	Type of work
69 70	I2	Type select code
71 73	I3	Docking start restraint (days)
74 76	I3	Docking end restraint (days)
77 80	I4	Sequence number
81 85	I5	Overlap (days) with forecasting period start or end date

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS
86	1X	
87	I3	Percent alterations
89		

Trailer Record (last record)

RECORD POS.	FORMAT	FIELD CONTENTS
1	"9"	
	"9"	
	"9"	
4	"9"	

COMMON OVERHAUL FILE

(Unit 7 - "LRPSCF" Output)

Header Record (one record)

RECORD POS	FORMAT	FIELD CONTENTS	
1			
. . .	16X	. . .	
16			
17	"C"		
	"O"		
	"M"		
	"M"		
	"O"		
	"N"		
	"O"		
	"V"		
	"E"		
	"R"		
	"H"		
	"A"		
	"U"		
	"L"		
	"F"		
	"I"		
	"L"		
36	"E"		
	4X		
41	I2	Month	File preparation date
43	"/"		
	I2	Day	
46	"/"		
	I2	Year	
48			

Availability Records (one for each availability)

RECORD POS.	FORMAT	FIELD CONTENTS	
1 – 4	A4	Ship type	
5 – 8	I4	Hull number	
	1X		
10 – 11	I2	Fiscal year of start of availability	
12 – 13	I2	Type of work (numeric)	
14 – 16	A3	Type of work (alpha)	
	1X		
18 – 19	I2	Month	Availability start date
20	"/"		
21 – 22	I2	Day	
23	"/"		
24 – 25	I2	Year	
26	"-"		
27 – 28	I2	Month	Availability end date
29	"/"		
30 – 31	I2	Day	
32	"/"		
33 – 34	I2	Year	
	1X		
36	"Y"		
37 – 41	A5	Overhaul yard	
42	1X		

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS
43	"H"	
44	A5	Homeport
48		
	1X	
50	I7	Mandays (PSP)
56		
	1X	
58	"C"	
59	I2	Labor distribution histogram
60		
	1X	
62	A1	Fleet ("A" or "P")
63	A1	Inact. marker
	1X	
65	A1	Source of data
66	I1	Type commander indicator
67	I4	Sequence number
70		
71	I6	Mandays (PSP) for repair work
76		
77	I4	Record number
80		

LRPS RUN FILES

(One file for each sector: Units 11-14 - "LRPSCF" Output)

Header Record (First record on the file)

RECORD POS.	FORMAT	FIELD CONTENTS
1		
. . .	A18	File name
18		
19 – 22	I4	File number
23 – 25	A3	File version
26 – 28	I2	Month
29 – 30	I2	Day
31	I2	Year
		File creation date
32 – 72	41X	
73 – 74	"A" "A"	[Sector]
	5X	
80	"0"	[Type Select]
81 – 84	"0" "0" "0" "0"	Record number

Availability Records (One per availability)

RECORD POS.	FORMAT	FIELD CONTENTS	
1	A4	Ship type	
4			
	1X		
6	I4	Hull number	
9			
	2X		
12	A5	Homeport	
16			
17	I2	Month	Availability start date
19	"/"		
	I2	Day	
22	"/"		
	I2	Year	
24			
25	I2	Month	Availability end date
27	"/"		
	I2	Day	
30	"/"		
	I2	Year	
32			
33	I4	Sequence number	
36			
37	I2	Priority	
38			
39	I2	Dock class	
40			
41	A1	Inact. marker	

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS	
42 43	I2	Labor distribution histogram	
44 48	A5	Overhaul yard	
49 51	I3	Start restraint	
52 54	I3	End restraint	
55 58	I4	Dock time (days)	
	1X		
60 66	I7	Mandays (production shop productive)	
67 69	A3	Type of work	
70 72	A3	Specialization category	
73	A1	Yard ownership ("N" or "P")	Sector
74	A1	Coast ("E" or "W")	
75 77	I3	Percent alterations	
	2X		
80	I1	Type select	
81 84	I4	Record number	

Trailer Records (Two records which follow all the availability records)

RECORD POS.	FORMAT	FIELD CONTENTS
1	"E"	
	"N"	
3	"D"	
4	I1	Contains "1" (first trailer record) or "2"
5		
.		.
.	68X	.
.		.
72		
73	"Z"	[Yard ownership indicator]
74	A1	Contains "X" (first trailer record) or "Y"
	5X	
80	"9"	[Type select]
81		
	I4	Record number
84		

Final Record

RECORD POS.	FORMAT	FIELD CONTENTS
1	"L"	
	"A"	
	"S"	
4	"T"	
5		
.		.
.	32X	.
.		.
36		
37		
38	"9"	[Priority]
39		
.		.
.	34X	.
.		.
72		
73	"Z"	
74	"Z"	[Sector]
	5X	
80	"9"	[Type select]
	"9"	
	"9"	[Record number]
	"9"	
84	"9"	

LISTING OF PROGRAM

```
C*****PROGRAM LRPSCF(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE1,TAPE2,  ****  10
C****.     TAPE3,TAPE4,TAPE7,TAPE11,TAPE12,TAPE13,TAPE14)                ****  20
C                                                                        LRPS  30
C                                                                        LRPS  40
C LRPSCF EXTRACTS RECORDS FROM THE LRPS ASSIGNMENT FILES, DISCARDS FROM  LRPS  50
C CONSIDERATION ALL BUT THE FIRST RECORD FOR EACH AVAILABILITY, CONVERTS LRPS  60
C CERTAIN LRPS PARAMETERS INTO THE FORMAT REQUIRED BY THE COMMON FILE    LRPS  70
C (CF) AND WRITES THE NEW RECORD IN THE CF FORMAT ON UNIT 7.             LRPS  80
C                                                                        LRPS  90
C LRPSCF ALSO PREPARES LRPS RUN FILES FROM THE EXTRACTED INFORMATION.    LRPS 100
C ALTHOUGH ALL UDOK AND NEW CONSTRUCTION WORK ARE OMITTED FROM THE       LRPS 110
C COMMON FILE, THEY ARE INCLUDED IN THE RUN FILES.                       LRPS 120
C REQUIRED FOR GROTON, NEWPORT NEWS, AND PASCAGOULA WHICH ARE NE YARDS   LRPS 130
C ON THE ASSIGNMENT FILES AND THE RUN FILES, BUT ARE PE FOR THE COMMON   LRPS 140
C FILE.                                                                  LRPS 150
C                                                                        LRPS 160
C THE FOLLOWING PARAMETERS ARE MODIFIED:                                 LRPS 170
C     - AVAILABILITY DATES - CONVERTED FROM RELATIVE TO GREGORIAN DATES  LRPS 180
C     - SHIPYARD - CONVERTED FROM NUMERIC CODE TO ALPHA DESIGNATION      LRPS 190
C     - REPAIR MANDAYS - COMPUTED USING THE PERCENT ALT FIGURE OF LRPS   LRPS 200
C                                                                        LRPS 210
C THE COASTAL DESIGNATION WILL BE "E" OR "W" AS IT EXISTS ON LRPS,       LRPS 220
C RATHER THAN "A" OR "P".  THE FIELD FOR THE NUMERIC CODE FOR TYPE OF    LRPS 230
C WORK WILL BE LEFT BLANK.                                               LRPS 240
C                                                                        LRPS 250
C THE EXTRACTION PERIOD DATES ARE READ FROM AN INPUT CARD.  RECORDS      LRPS 260
C DESCRIBING AVAILABILITIES WHICH DO NOT START OR END WITHIN THIS TIME   LRPS 270
C PERIOD ARE DISCARDED.                                                  LRPS 280
C                                                                        LRPS 290
C BOTH TYPE SELECT AND PRIORITY ARE SET EQUAL TO 1 FOR ALL RECORDS ON    LRPS 300
C THE RUN FILES.                                                         LRPS 310
C                                                                        LRPS 320
C THE FOLLOWING UNITS ARE USED BY THE PROGRAM:                           LRPS 330
C                                                                        LRPS 340
C     UNIT 1 - INPUT  - LRPS ASSIGNMENT FILE, NE                         LRPS 350
C     UNIT 2 - INPUT  - LRPS ASSIGNMENT FILE, NW                         LRPS 360
C     UNIT 3 - INPUT  - LRPS ASSIGNMENT FILE, PE                         LRPS 370
C     UNIT 4 - INPUT  - LRPS ASSIGNMENT FILE, PW                         LRPS 380
C     UNIT 5 - INPUT  - CARD INPUT                                       LRPS 390
C     UNIT 6 - OUTPUT - LIST OF LRPS FILES PROCESSED                     LRPS 400
C     UNIT 7 - OUTPUT - LRPS/COMMON FILE                                 LRPS 410
C     UNIT 11- OUTPUT - LRPS RUN FILE, NE                                LRPS 420
C     UNIT 12- OUTPUT - LRPS RUN FILE, NW                                LRPS 430
C     UNIT 13- OUTPUT - LRPS RUN FILE, PE                                LRPS 440
C     UNIT 14- OUTPUT - LRPS RUN FILE, PW                                LRPS 450
C                                                                        LRPS 460
C PROGRAMMED BY LINDA L. LAMATRICE, DTNSRDC, CODE 187 (APR 1977).        LRPS 470
C                                                                        LRPS 480
C ---------------------------------------------------------------------  LRPS 490
C                                                                        LRPS 500
      INTEGER AVSTG, AVENDG,AVSTR,AVENDR,STPER,ENDPER                    LRPS 510
C                                                                        LRPS 520
      REAL*8 YARD,YARDS,HOMEPT,DATE,SGROT,SNEWS,SPASC  ,RFID,RFNAME      **** 530
C                                                                        LRPS 540
      DIMENSION YARDS(10),AVSTG(3),AVENDG(3),STPER(3),ENDPER(3),         LRPS 550
     .    LRPSID(6),COAST(4),OWN(4),TRAIL(2),DATE(3),RFID(4),RFNAME(3)   LRPS 560
C                                                                        LRPS 570
      DATA BLANKS/1H /, COAST/1HE,1HW,1HE,1HW/,  XN,P/1HN,1HP/,          LRPS 580
     .    UDOK/4HUDOK/, XNC/2HNC/, SGROT,SNEWS,SPASC/5HSGROT,5HSNEWS,    LRPS 590
     .    5HSPASC/, E,W/1HE,1HW/, OWN/2*1HN,2*1HP/, TRAIL/1HX,1HY/       LRPS 600
C                                                                        LRPS 610
```

```
C -------------------------------------------------------------------   LRPS 620
C                                                                       LRPS 630
C                                                                       LRPS 640
C READ RUN CARD.  ---------------------------------------------------   LRPS 650
      READ (5,80)  DATE,CODE,CODEC,RFNAME,RFID                          LRPS 660
   80 FORMAT (3A3,2A1,2X,3A6,4A7)                                       LRPS 670
      WRITE (6,85)  DATE                                                LRPS 680
   85 FORMAT (1H1//10X,37HRUN FILES/COMMON FILE CREATION DATE: ,3A3)    LRPS 690
      WRITE (7,90)  DATE                                                LRPS 700
   90 FORMAT (16X,20HCOMMON OVERHAUL FILE,4X,3A3,T80,1H0)               LRPS 710
      READ (5,100)  STPER,ENDPER                                        LRPS 720
  100 FORMAT (19X,3(I2,1X),2X,3(I2,1X))                                 LRPS 730
      ISTPER=STPER(3)*10000 + STPER(1)*100 + STPER(2)                   LRPS 740
      IENDPR=ENDPER(3)*10000 + ENDPER(1)*100 + ENDPER(2)                LRPS 750
      WRITE (6,110)  STPER,ENDPER                                       LRPS 760
  110 FORMAT (     /10X,19HEXTRACTION PERIOD: ,2(I2,1H/),I2,3H - ,      LRPS 770
     . 2(I2,1H/),I2//10X,31HLRPS ASSIGNMENT FILES PROCESSED,            LRPS 780
     .    9X,22HLRPS RUN FILES CREATED/10X,31(1H-),9X,22(1H-)/)         LRPS 790
      NVAR=1                                                            LRPS 800
      NVARRF=11                                                         LRPS 810
      IF (CODE.NE.P)  GO TO 115                                         LRPS 820
      NVAR=3                                                            LRPS 830
      NVARRF=13                                                         LRPS 840
  115 IF (CODEC.EQ.W)  GO TO 300                                        LRPS 850
      NREC=0                                                            LRPS 860
C .                                                                     LRPS 870
C READ LRPS LIST OF YARDS.  -----------------------------------------   LRPS 880
  120 READ (NVAR,130,END=400)  YARDS                                    **** 890
C*120 READ (NVAR,130)  YARDS                                            **** 900
  130 FORMAT (20X,10(A5,1X)//)                                          LRPS 910
C*****IF (EOF(NVAR).NE.0.0)  GO TO 400                                  **** 920
C                                                                       LRPS 930
C READ FIRST CALENDAR YEAR OF LRPS DATA.  ---------------------------   LRPS 940
      READ (NVAR,140)  LRPSID,IFSTCY                                    LRPS 950
  140 FORMAT (4X,6A4,I2)                                                LRPS 960
      WRITE (NVARRF,145)  RFNAME,RFID(NVAR),DATE                        LRPS 970
  145 FORMAT (3A6,A7,3A2,41X,2HAA,5X,5H00000)                           LRPS 980
      WRITE (6,150)  LRPSID,IFSTCY,RFNAME,RFID(NVAR),DATE               LRPS 990
  150 FORMAT (13X,6A4,I2,7X,3A6,A7,3A2)                                 LRPS1000
C                                                                       LRPS1010
C READ NEXT LRPS RECORD.  -------------------------------------------   LRPS1020
  200 READ (NVAR,210)   NUMYD,NUMPER,CONT,SHIP,IHULL,HOMEPT,AVSTR,      LRPS1030
     .    AVENDR,ICLASS,SPEC,LDH,IDTIME,MDTOT,TW,ISRES,IERES,ISEQ,ILAP,  LRPS1040
     .    IPCTA                                                         LRPS1050
  210 FORMAT (2I2,3X,A3,A4,1X,I4,A5,10X,2I4,I2,4X,A4,I2,I4,I7,A3,2X,    LRPS1060
     .    2I3,A4,I5,1X,I3)                                              LRPS1070
      IF (NUMYD.EQ.99 .AND. NUMPER.EQ.99)  GO TO 285                    LRPS1080
C                                                                       LRPS1090
C DISCARD RECORD IF CONTINUATION RECORD.  ---------------------------   LRPS1100
      IF (CONT.NE.BLANKS)  GO TO 200                                    LRPS1110
      YARD=YARDS(NUMYD)                                                 LRPS1120
C                                                                       LRPS1130
C DISCARD RECORD IF NOT WITHIN EXTRACTION PERIOD.  ------------------   LRPS1140
      IF (ILAP.LT.0)  GO TO 220                                         LRPS1150
      AVENDR=AVENDR + ILAP                                              LRPS1160
      GO TO 230                                                         LRPS1170
  220 AVSTR=AVSTR + ILAP                                                LRPS1180
  230 CALL RTGCON(AVSTR,AVSTG,IFSTCY)                                   LRPS1190
      CALL RTGCON(AVENDR,AVENDG,IFSTCY)                                 LRPS1200
      AVSTR= 10000*AVSTG(3) + 100*AVSTG(1) + AVSTG(2)                   LRPS1210
      AVENDR=10000*AVENDG(3) + 100*AVENDG(1) + AVENDG(2)                LRPS1220
      IF (AVENDR.LT.ISTPER .OR. AVSTR.GT.IENDPR)  GO TO 200             LRPS1230
C                                                                       LRPS1240
```

```
C CALCULATE FISCAL YEAR OF START OF AVAILABILITY.  ----------          LRPS1250
      ISTFY=AVSTG(3)                                                   LRPS1260
      IF (AVSTG(1).GE.10)  ISTFY=ISTFY + 1                             LRPS1270
C                                                                      LRPS1280
C WRITE LRPS/COMMON FILE RECORD.  ------------------------------       LRPS1290
      IF (SHIP.EQ.UDOK .OR. TW.EQ.XNC)  GO TO 270                      LRPS1300
      MDREP=(1.0 - FLOAT(IPCTA)/100.0)*MDTOT                           LRPS1310
      NREC=NREC + 1                                                    LRPS1320
      WRITE (7,250)  SHIP,IHULL,ISTFY,TW,AVSTG,AVENDG,YARD,HOMEPT,     LRPS1330
     .     MDTOT,LDH,COAST(NVAR),ISEQ,MDREP,NREC                       LRPS1340
  250 FORMAT (A4,I4,1X,I2,2X,A3,1X,2(I2,1H/),I2,1H-,2(I2,1H/),I2,2H Y,  LRPS1350
     .     A5,2H H,A5,1X,I7,   2H C,I2,1X,A1,4X,A4,I6,I4)              LRPS1360
C                                                                      LRPS1370
C WRITE RUN FILE RECORD.  ---------------------------------------      LRPS1380
  270 NRECRF=NRECRF + 1                                                LRPS1390
      IPRI=1                                                           LRPS1400
      ITSEL=1                                                          LRPS1410
      WRITE (NVARRF,280)  SHIP,IHULL,HOMEPT,AVSTG,AVENDG,ISEQ,IPRI,    LRPS1420
     .     DCLASS,LDH,YARD,ISRES,IERES,IDTIME,MDTOT,TW,SPEC,OWN(NVAR),  LRPS1430
     .     COAST(NVAR),IPCTA,ITSEL                                     LRPS1440
  280 FORMAT (A4,1X,I4,2X,A5,2(2(I2,1H/),I2),A4,2I2,1X,I2,A5,2I3,I4,1X,  LRPS1450
     .     I7,2A3,2A1,I3,2X,I1,4X)                                     LRPS1460
      GO TO 200                                                        LRPS1470
C                                                                      LRPS1480
C WRITE RUN FILE TRAILER RECORDS.  -----------------------------       LRPS1490
  285 WRITE (NVARRF,290)  (I,TRAIL(I),I=1,2)                           LRPS1500
  290 FORMAT (3HEND,I1,68X,1HZ,A1,5X,1H9,4X)                           LRPS1510
      WRITE (NVARRF,295)                                               LRPS1520
  295 FORMAT (4HLAST,33X,1H9,34X,2HZZ,5X,5H99999)                      LRPS1530
C                                                                      LRPS1540
C SELECT NEXT ASSIGNMENT FILE TO PROCESS.  ---------------------       LRPS1550
  300 NVAR=NVAR+1                                                      LRPS1560
      NVARRF=NVARRF+1                                                  LRPS1570
      GO TO (320,320,330,340,400), NVAR                                LRPS1580
C                                                                      LRPS1590
  320 IF (CODEC.EQ.E .OR. CODE.EQ.P)  GO TO 300                        LRPS1600
      GO TO 120                                                        LRPS1610
C                                                                      LRPS1620
  330 IF (CODEC.EQ.W .OR. CODE.EQ.XN)  GO TO 300                       LRPS1630
      GO TO 120                                                        LRPS1640
C                                                                      LRPS1650
  340 IF (CODEC.NE.E .AND. CODE.NE.XN)  GO TO 120                      LRPS1660
C                                                                      LRPS1670
  400 STOP                                                             LRPS1680
      END                                                              LRPS1690
```

```
      SUBROUTINE RTGCON(IREL,IGREG,IFSTCY)                              RTGC  10
C                                                                       RTGC  20
C                                                                       RTGC  30
C SUBROUTINE RTGCON (RELATIVE TO GREGORIAN CONVERSION) CONVERTS THE     RTGC  40
C DATE IREL, AN LRPS RELATIVE DATE, TO ITS GREGORIAN DATE EQUIVALENT,   RTGC  50
C IGREG.                                                                RTGC  60
C                                                                       RTGC  70
C                                                                       RTGC  80
      DIMENSION IGREG(3)                                                RTGC  90
C                                                                       RTGC 100
C ----------------------------------------------------------------      RTGC 110
C                                                                       RTGC 120
      M=IREL + 270                                                      RTGC 130
      IF (M.LT.0)  GO TO 150                                            RTGC 140
      IGREG(3)=M/360 + IFSTCY                                           RTGC 150
  100 IGREG(1)=MOD(M,360)/30 + 1                                        RTGC 160
      IGREG(2)=MOD(M,30) + 1                                            RTGC 170
      RETURN                                                            RTGC 180
C                                                                       RTGC 190
  150 IGREG(3)=IFSTCY                                                   RTGC 200
  160 IGREG(3)=IGREG(3) - 1                                             RTGC 210
      M=M + 360                                                         RTGC 220
      IF (M.LT.0)  GO TO 160                                            RTGC 230
      GO TO 100                                                         RTGC 240
      END                                                               RTGC 250
```

SAMPLE RUN

A sample run was made using an extract of the LRPS Assignment Files (Navy yards only). The extract consisted of only CGN 9 through CV 62 ships. A listing of all input and output files, cards, and printout is presented in this section.

Unit 5 - Card Input

```
07/22/78 NB  LRPS RUN FILE         0101   0201   0301   0401
EXTRACTION PERIOD: 10/01/78 -   9/30/82
```

Unit 6 - Printed Output

```
RUN FILES/COMMON FILE CREATION DATE: 07/22/78

EXTRACTION PERIOD: 10/ 1/78 -   9/30/82

LRPS ASSIGNMENT FILES PROCESSED          LRPS RUN FILES CREATED
-------------------------------          ----------------------

   NE-D4 110476OFFICIAL USE77            LRPS RUN FILE        0101 072278
   NW-D8 122076OFFICIAL USE77            LRPS RUN FILE        0201 072278
```

Unit 7 (output) - Common Overhaul File (unsorted)

```
                   COMMON OVERHAUL FILE    07/22/78                                    0
CGN  40 79  FO  11/ 6/78- 1/ 5/79 YSNEWS HD 05       6000 C 1 E          2  6000   1
CGN  41 80  FO   3/17/80- 5/16/80 YSNEWS HD 05       5000 C 1 E          2  5000   2
CV   62 78  RO  11/21/77-10/19/78 YNORVA HNORVA    346352 C23 E         40204347   3
CGN  39 78  PS   6/26/78-10/25/78 YNORVA HNORVA     35000 C 1 E          3 35000   4
CV   60 79  RO   4/20/79-12/ 1/79 YNORVA HMAYPT    240000 C23 E         60127199   5
CGN  40 79  PS   7/16/79-11/16/79 YNORVA HNORVA     45000 C 1 E          3 45000   6
CGN  38 79  RA   8/ 3/79-10/ 2/79 YNORVA HNORVA     12000 C 1 E          4  8160   7
CV   62 79  RA   9/ 1/79-11/26/79 YNORVA HNORVA     69170 C17 E         41 40118   8
CV   59 80  RA   5/ 3/80- 7/29/80 YNORVA HNORVA     60000 C17 E         42 34200   9
CGN  41 81  PS  12/15/80- 3/20/81 YNORVA HNORVA     45000 C 1 E          3 45000  10
CGN  37 81  RO   1/ 2/81- 3/ 5/82 YNORVA HNORVA    278000 C13 E         10239080  11
CV   59 82  RA  10/ 1/81- 1/ 1/82 YNORVA HNORVA     60000 C17 E         43 33599  12
CGN  38 82  RO   7/ 1/82- 9/ 2/83 YNORVA HNORVA    278000 C13 E         10252979  13
CGN  40 82  RA   5/ 1/82- 7/ 1/82 YCHASN HCHASN     12000 C 1 E          4     0  14
CV   43 78  RO  11/30/77-11/29/78 YLBECH HALAM     342067 C24 W         40283915  15
CV   41 81  RO  10/12/80-10/12/81 YLBECH HALAM     396045 C 1 W         40312875  16
CV   41 79  RA  11/10/78- 1/11/79 YPUGET HALAM      40000 C17 W         36 20799  17
CGN  25 79  RA   1/15/79- 3/15/79 YPUGET HLBECH     30000 C 1 W         24 23999  18
CGN  36 79  RA   1/15/79- 4/16/79 YPUGET HLBECH     47204 C 1 W          4 35875  19
CGN  35 79  RA   1/15/79- 3/15/79 YPUGET HSD        12000 C 1 W         11     0  20
CGN   9 79  C    4/ 1/79- 4/ 1/82 YPUGET HLBECH    739000 C 9 W         30739000  21
CGN  39 79  RA   7/15/79- 9/15/79 YPUGET HSD        12000 C 1 W          4     0  22
CGN  36 80  RQ   4/14/80- 6/14/81 YPUGET HLBECH    278550 C 9 W         10239553  23
CGN  35 81  RO   6/ 1/81- 8/ 1/82 YPUGET HSD       298507 C19 W         20256716  24
CGN  25 82  RO   6/ 1/82- 8/ 1/83 YPUGET HLBECH    298507 C19 W         30256716  25
```

Unit 1 (input) - LRPS Assignment File, NE

```
0 1                PTSMH SGROT PHILA SNEWS NORVA CHASN SPASC LOFYN LOFYO
0 2                78-I  78-II 79-I  79-II 80-I  80-II 81-I  81-II 82-I  82-II
0 3                83-I  83-II 84-I  84-II 85-I  85-II 86-I  86-II 87-I  87-II
0 4NE-D4 110476OFFICIAL USE77 NAVAL SHIPYARDS EAST COAST
4 1G01    CGN     39D 05  20      0  34  9546 1 1AAN  1  20      0FO  5  3 35   2    0
4 3G01    CGN     40D 05  20   6000 395 45446 3 3AAN  1  20   6000FO  5  3 33   2    0
4 5G01    CGN     41D 05  11    618 886 94546 5 6AAN  1  20   5000FO  5  3 29   2    0
4 6G01(C)CGN      41D 05   9   4381 886 94546 5 6AAN  1  20   5000FO  5  3 29   2    0
5 1G08    CV      62NORVA100 140469  50 378 5 1 1CVA 23 100 346352RO  4  3178  40    0  41
5 2G08(C)CV       62NORVA  0 199596  50 378 5 1 1CVA 23 100 346352RO  4  3178  40    0  41
5 2---    CGN     37NORVA  0  20400 260 321462121AAN  1   0  20400RA  3  0  0   4    0  39
5 2G03    CGN     39NORVA 15  31554 265 38446 2 2AAN  1  15  35000PS  5  3 85   3    0
5 3G08(C)CV       62NORVA  0   6286  50 378 5 1 1CVA 23 100 346352RO  4  3178  40    0  41
5 3G03(C)CGN      39NORVA  0   3445 265 38446 2 2AAN  1  15  35000PS  5  3 85   3    0
5 4G08    CV      60MAYPT 80 194944 559 780 5 4 4CVA 23  80 240000RO  4  3100  60    0  47
5 4G04    CGN     40NORVA 15  30588 645 76546 4 4AAN  1  15  45000PS  5  3 86   3    0
5 4---    CGN     38NORVA  0  11955 662 721462121AAN  1   0  12000RA  3  0  0   4    0  32
5 4---    CV      62NORVA  0  29389 690 775 52121CVA 17   0  69170RA  4  0  0  41    0  42
5 5G08(C)CV       60MAYPT  0  45055 559 780 5 4 4CVA 23  80 240000RO  4  3100  60    0  47
5 5G04(C)CGN      40NORVA  0  14411 645 76546 4 4AAN  1  15  45000PS  5  3 86   3    0
5 5---(C)CGN      38NORVA  0     44 662 721462121AAN  1   0  12000RA  3  0  0   4    0  32
5 5---(C)CV       62NORVA  0  39780 690 775 52121CVA 17   0  69170RA  4  0  0  41    0  42
5 6---    CV      59NORVA  0  60000 9321018 52121CVA 17   0  60000RA  4  0  0  42    0  43
5 7G03    CGN     41NORVA 15 450001154124946 7 7AAN  1  15  45000PS  5  3 69   3    0
5 7G04    CGN     37NORVA 24 683691171159446 7 8AAN 13  80 278000RO  4  3279  10    0  14
5 8G04(C)CGN      37NORVA 56 1618211171159446 7 8AAN 13  80 278000RO  4  3279  10    0  14
5 9G04(C)CGN      37NORVA  0 478081171159446 7 8AAN 13  80 278000RO  4  3279  10    0  14
5 9---    CV      59NORVA  0 6000014401530 52121CVA 17   0  60000RA  4  0  0  43    0  44
510G03    CGN     38NORVA 80 6980817102131461010AAN 13  80 278000RO  4  3278  10    0   9
511G03(C)CGN      38NORVA  0 1618201710213146 1010AAN 13  80 278000RO  4  3278  10    0   9
512G03(C)CGN      38NORVA  0 4637117102131461010AAN 13  80 278000RO  4  3278  10    0   9
512G08    CV      59NORVA100 20648019802340 51212CVA 22 100 396000RO  4  3200  50    0  40
513G08(C)CV       59NORVA  0 18898119802340 51212CVA 22 100 396000RO  4  3200  50    0  40
513---    CGN     41NORVA  0  8000216022204621 21AAN  1   0   8000RA  3  0  0   4    0  10
514G08(C)CV       59NORVA  0   53719802340 51212CVA 22 100 396000RO  4  3200  50    0  40
515G04    CGN     40CHASN 80 8314526122972461515AAN 13  80 279000RO  4  3226  10    0  30
516G04(C)CGN      40CHASN  0 1720332612297246 1515AAN 13  80 279000RO  4  3226  10    0  30
517G04(C)CGN      40CHASN  0 2382026122972461515AAN 13  80 279000RO  4  3226  10    0  40
517---    CV      59NORVA  0 6000028802970 52121CVA  1   0  60000RA  4  0  0  51    0
610---    CGN     40CHASN  0 1200016501710462121AAN  1   0  12000RA  3  0  0   4    0 100
9999
```

Unit 2 (input) - LRPS Assignment File, NW

```
0 1                  LBECH MARE  PUGET PEARL POFYN POFYO
0 2                  78-I  78-II 79-I  79-II 80-I  80-II 81-I  81-II 82-I  82-II
0 3                  83-I  83-II 84-I  84-II 85-I  85-II 86-I  86-II 87-I  87-II
0 4NW-D8 122076OFFICIAL USE77 NAVAL SHIPYARDS WEST COAST
1 1---   CV     43ALAM   0 124004   59 418102121CVA 24    0 342067RO  4  0  0  40    0  17
1 2---(C)CV     43ALAM   0 199985   59 418102121CVA 24    0 342067RO  4  0  0  40    0  17
1 3---(C)CV     43ALAM   0  18076   59 418102121CVA 24    0 342067RO  4  0  0  40    0  17
1 7G01   CV     41ALAM  90 1790971091145110 7 7CVA  1   90 396045RO  4 0100  40    0  21
1 8G01(C)CV     41ALAM   0 2154721091145110 7 7CVA  1   90 396045RO  4 0100  40    0  21
1 9G01(C)CV     41ALAM   0  147410911451l0 7 7CVA  1   90 396045RO  4 0100  40    0  21
213---   CGN     9SD     0 250002264232430212lAAN  1    0  25000RA  4  0  0  31    0
3 1---   CV     61SD     0 111606    0 134 52121CVA 24    0 443300RO  4  0  0  50 -226  38
3 3---   CV     41ALAM   0  40000 399 460102121CVA 17    0  40000RA  4  0  0  36    0  48
3 3---   CGN    25LBECH  0  30000 464 524502121AAN  1    0  30000RA  3  0  0  24    0  20
3 3---   CGN    36LBECH  0  43925 464 555462121AAN  1    0  47204RA  3  0  0   4    0  24
3 3---   CGN    35SD     0  12000 464 524452121AAN  1    0  12000RA  3  0  0  11    0 100
3 4---(C)CGN    36LBECH  0   3278 464 555462121AAN  1    0  47204RA  3  0  0   4    0  24
3 4G02   CGN     9LBECH177  82471 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 4---   CGN    39SD     0  12000 644 704452121AAN  1    0  12000RA  3  0  0   4    0 100
3 5G02(C)CGN     9LBECH 23 163508 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 6G02(C)CGN     9LBECH  0 164152 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 6G04   CGN    36LBECH 80 116368 913133346 6 6AAN  9   80 278550RO  4 3247  10    0  14
3 7G02(C)CGN     9LBECH  0 163582 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 7G04(C)CGN    36LBECH  0 144621 913133346 6 6AAN  9   80 278550RO  4 3247  10    0  14
3 8G02(C)CGN     9LBECH  0 123009 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 8G04(C)CGN    36LBECH  0  17560 913133346 6 6AAN  9   80 278550RO  4 3247  10    0  14
3 8G01   CGN    35SD    80 757601320174045 8 8AAN 19   80 298507RO  4 3246  20    0  14
3 9G02(C)CGN     9LBECH  0  42207 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
3 9G01(C)CGN    35SD     0 1652331320174045 8 8AAN 19   80 298507RO  4 3246  20    0  14
310G02(C)CGN     9LBECH  0     68 540162030 4 5AAN  9  200 739000C  4 3800  30    0   0
310G01(C)CGN    35SD     0 575131320174045 8 8AAN 19   80 298507RO  4 3246  20    0  14
310G02   CGN    25LBECH 80 7576016802100501010AAN 19   80 298507RO  4 3323  30    0  14
311G02(C)CGN    25LBECH  0 16523316802100501010AAN 19   80 298507RO  4 3323  30    0  14
311G05   CV     61SD   100 14507618442174 51111CVA  1  100 396045RO  4 3100  60    0  40
312G02(C)CGN    25LBECH  0 575131680210050l010AAN 19   80 298507RO  4 3323  30    0  30
312G05(C)CV     61SD     0 24895718442174 51111CVA  1  100 396045RO  4 3100  60    0  40
313G05(C)CV     61SD     0  201018442174 51111CVA  1  100 396045RO  4 3100  60    0  40
313---   CGN    36LBECH  0 250002222228046212lAAN  1    0  25000RA  3  0  0  11    0
314G05   CGN    39SD    48 627722402282246141 5AAN 10   80 278550RO  4 3200  10    0  30
315G05(C)CGN    39SD    32 148868240228224614l5AAN 10   80 278550RO  4 3200  10    0  30
315---   CGN    35SD     0 249542640270045212lAAN  1    0  25000RA  3  0  0  21    0
316G05(C)CGN    39SD     0 669082402282246141 5AAN 10   80 278550RO  4 3200  10    0  30
316---(C)CGN    35SD     0    4526402700452121AAN  1    0  2500JRA  3  0  0  21    0
317G02   CGN     9LBECH 73 4123129843239301718AAN  4   80 200000RF  4 3135  40  165  30
317---   CGN    25LBECH  0 246793000306046212lAAN 17    0  25000RA  4  0  0  31    0
318G02(C)CGN     9LBECH  7 976532984323930171 8AAN  4   80 200000RF  4 3135  40  165  30
318---(C)CGN    25LBECH  0  32030003060462121AAN 17    0  25000RA  4  0  0  31    0
9999
```

Unit 11 (output) - LRPS Run File, NE (unsorted)

```
LRPS RUN FILE        0101 072278                                                AA      00000
CGN     40  D 05 11/ 6/78 1/ 5/79   2 1 0  1SNEWS  3 33  20    6000FO AANNE  0  1
CGN     41  D 05  3/17/80 5/16/80   2 1 0  1SNEWS  3 29  20    5000FO AANNE  0  1
CV      62  NORVA11/21/7710/19/78  40 1 0 23NORVA  3178 100  346352RO CVANE 41  1
CGN     39  NORVA 6/26/7810/25/78   3 1 0  1NORVA  3 85  15   35000PS AANNE  0  1
CV      60  MAYPT 4/20/7912/ 1/79  60 1 0 23NORVA  3100  80  240000RO CVANE 47  1
CGN     40  NORVA 7/16/7911/16/79   3 1 0  1NORVA  3 86  15   45000PS AANNE  0  1
CGN     38  NORVA 8/ 3/7910/ 2/79   4 1 0  1NORVA  0  0   0   12000RA AANNE 32  1
CV      62  NORVA 9/ 1/7911/26/79  41 1 0 17NORVA  0  0   0   69170RA CVANE 42  1
CV      59  NORVA 5/ 3/80 7/29/80  42 1 0 17NORVA  0  0   0   60000RA CVANE 43  1
CGN     41  NORVA12/15/80 3/20/81   3 1 0  1NORVA  3 69  15   45000PS AANNE  0  1
CGN     37  NORVA 1/ 2/81 3/ 5/82  10 1 0 13NORVA  3279  80  278000RO AANNE 14  1
CV      59  NORVA10/ 1/81 1/ 1/82  43 1 0 17NORVA  0  0   0   60000RA CVANE 44  1
CGN     38  NORVA 7/ 1/82 9/ 2/83  10 1 0 13NORVA  3278  80  278000RO AANNE  9  1
CGN     40  CHASN 5/ 1/82 7/ 1/82   4 1 0  1CHASN  0  0   0   12000RA AANNE100  1
END1                                                                            ZX      9
END2                                                                            ZY      9
LAST                                9                                           ZZ      99999
```

Unit 12 (output) - LRPS Run File, NW (unsorted)

```
LRPS RUN FILE        0201 072278                                                AA      00000
CV      43  ALAM 11/30/7711/29/78  40 1 0 24LBECH  0  0   0  342067RO CVANW 17  1
CV      41  ALAM 10/12/8010/12/81  40 1 0  1LBECH  0100  90  396045RO CVANW 21  1
CV      41  ALAM 11/10/78 1/11/79  36 1 0 17PUGET  0  0   0   40000RA CVANW 48  1
CGN     25  LBECH 1/15/79 3/15/79  24 1 0  1PUGET  0  0   0   30000RA AANNW 20  1
CGN     36  LBECH 1/15/79 4/16/79   4 1 0  1PUGET  0  0   0   47204RA AANNW 24  1
CGN     35  SD    1/15/79 3/15/79  11 1 0  1PUGET  0  0   0   12000RA AANNW100  1
CGN      9  LBECH 4/ 1/79 4/ 1/82  30 1 0  9PUGET  3800 200  739000C  AANNW  0  1
CGN     39  SD    7/15/79 9/15/79   4 1 0  1PUGET  0  0   0   12000RA AANNW100  1
CGN     36  LBECH 4/14/80 6/14/81  10 1 0  9PUGET  3247  80  278550RO AANNW 14  1
CGN     35  SD    6/ 1/81 8/ 1/82  20 1 0 19PUGET  3246  80  298507RO AANNW 14  1
CGN     25  LBECH 6/ 1/82 8/ 1/83  30 1 0 19PUGET  3323  80  298507RO AANNW 14  1
END1                                                                            ZX      9
END2                                                                            ZY      9
LAST                                9                                           ZZ      99999
```

LRPS Run File, NE (sorted)

```
LRPS RUN FILE        0101 072278                                                    AA       00000
CGN    37  NORVA 1/ 2/81 3/ 5/82  10 1 0 13NORVA  3279  80  278000RO AANNE 14  1
CGN    38  NORVA 8/ 3/7910/ 2/79   4 1 0  1NORVA  0  0   0   12000RA AANNE 32  1
CGN    38  NORVA 7/ 1/82 9/ 2/83  10 1 0 13NORVA  3278  80  278000RO AANNE  9  1
CGN    39  NORVA 6/26/7810/25/78   3 1 0  1NORVA  3 85  15   35000PS AANNE  0  1
CGN    40  D 05 11/ 6/78 1/ 5/79   2 1 0  1SNEWS  3 33  20    6000FO AANNE  0  1
CGN    40  NORVA 7/16/7911/16/79   3 1 0  1NORVA  3 86  15   45000PS AANNE  0  1
CGN    40  CHASN 5/ 1/82 7/ 1/82   4 1 0  1CHASN  0  0   0   12000RA AANNE100  1
CGN    41  D 05  3/17/80 5/16/80   2 1 0  1SNEWS  3 29  20    5000FO AANNE  0  1
CGN    41  NORVA12/15/80 3/20/81   3 1 0  1NORVA  3 69  15   45000PS AANNE  0  1
CV     59  NORVA 5/ 3/80 7/29/80  42 1 0 17NORVA  0  0   0   60000RA CVANE 43  1
CV     59  NORVA10/ 1/81 1/ 1/82  43 1 0 17NORVA  0  0   0   60000RA CVANE 44  1
CV     60  MAYPT 4/20/7912/ 1/79  60 1 0 23NORVA  3100  80  240000RO CVANE 47  1
CV     62  NORVA11/21/7710/19/78  40 1 0 23NORVA  3178 100  346352RO CVANE 41  1
CV     62  NORVA 9/ 1/7911/26/79  41 1 0 17NORVA  0  0   0   69170RA CVANE 42  1
END1                                                                          ZX       9
END2                                                                          ZY       9
LAST                                    9                                     ZZ       99999
```

LRPS Run File, NW (sorted)

```
LRPS RUN FILE        0201 072278                                                    AA       00000
CGN     9  LBECH 4/ 1/79 4/ 1/82  30 1 0  9PUGET  3800 200  739000C  AANNW  0  1
CGN    25  LBECH 1/15/79 3/15/79  24 1 0  1PUGET  0  0   0   30000RA AANNW 20  1
CGN    25  LBECH 6/ 1/82 8/ 1/83  30 1 0 19PUGET  3323  80  298507RO AANNW 14  1
CGN    35  SD    1/15/79 3/15/79  11 1 0  1PUGET  0  0   0   12000RA AANNW100  1
CGN    35  SD    6/ 1/81 8/ 1/82  20 1 0 19PUGET  3246  80  298507RO AANNW 14  1
CGN    36  LBECH 1/15/79 4/16/79   4 1 0  1PUGET  0  0   0   47204RA AANNW 24  1
CGN    36  LBECH 4/14/80 6/14/81  10 1 0  9PUGET  3247  80  278550RO AANNW 14  1
CGN    39  SD    7/15/79 9/15/79   4 1 0  1PUGET  0  0   0   12000RA AANNW100  1
CV     41  ALAM 11/10/78 1/11/79  36 1 0 17PUGET  0  0   0   40000RA CVANW 48  1
CV     41  ALAM 10/12/8010/12/81  40 1 0  1LBECH  0100  90  396045RO CVANW 21  1
CV     43  ALAM 11/30/7711/29/78  40 1 0 24LBECH  0  0   0   342067RO CVANW 17  1
END1                                                                          ZX       9
END2                                                                          ZY       9
LAST                                    9                                     ZZ       99999
```

PROGRAM PRCOF

DESCRIPTION

The program PRCOF prints out the Common Overhaul File (COF) in readable format with column headings. It also redetermines the start fiscal year of each availability, numbers the records, and creates a new COF.

The deck set-up for the PRCOF program includes a sort of the COF on the following parameters (in the order listed):

- Shipyard
- Ship type
- Hull number
- Sequence number

RUN SET-UP

The following set-up is used to run the PRCOF program on the IBM 360/370 computer:

```
//NVSPRCOF JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC SDA                                        (SORT COMMON OVERHAUL FILE)
//SORTIN DD DSN={COMMON OVERHAUL FILE},DISP=SHR
//SORTOUT DD DSN=&&TEMP,DISP=(,PASS),UNIT=SYSDA,
// SPACE=(800,500),DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
//SYSIN DD *    (SORT BY YARD, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(37,5,A,1,8,A,67,4,A),FORMAT=CH

// EXEC PGM=PRCOF                                 (EXECUTE PROGRAM PRCOF)
//GO.FT05F001 DD *                                  (CARD INPUTS - NONE)
//GO.FT06F001 DD SYSOUT=A          (FORMATTED PRINTOUT OF COMMON FILE)
//GO.FT08F001 DD DSN=&&TEMP,DISP=(OLD,DELETE)              (INPUT FILE)
//GO.FT09F001 DD DSN={COMMON OVERHAUL FILE},DISP=SHR      (OUTPUT FILE)
```

INPUT/OUTPUT

The following units are used by the PRCOF program:

Unit 6 - Output - Printout of the COF

Unit 8 - Input - Sorted Common Overhaul File

Unit 9 - Output - Renumbered Common Overhaul File

An example of the hardcopy output generated by unit 6 is presented on pages 45-47.

COMMON OVERHAUL FILE

(Unit 7 - "PRCOF" Input and Unit 9 - "PRCOF" Output)

Header Record (one record)

RECORD POS	FORMAT	FIELD CONTENTS	
1			
.		.	.
.	16X	.	.
.		.	.
16			
17	"C"		
	"O"		
	"M"		
	"M"		
	"O"		
	"N"		
	"O"		
	"V"		
	"E"		
	"R"		
	"H"		
	"A"		
	"U"		
	"L"		
	"F"		
	"I"		
	"L"		
36	"E"		
	4X		
41	I2	Month	File preparation date
43	"/"		
	I2	Day	
46	"/"		
	I2	Year	
48			

Availability Records (one for each availability)

RECORD POS.	FORMAT	FIELD CONTENTS	
1 – 4	A4	Ship type	
5 – 8	I4	Hull number	
	1X		
10 – 11	I2	Fiscal year of start of availability	
12 – 13	I2	Type of work (numeric)	
14 – 16	A3	Type of work (alpha)	
	1X		
18 – 19	I2	Month	Availability start date
20	"/"		
21 – 22	I2	Day	
23	"/"		
24 – 25	I2	Year	
26	"-"		
27 – 28	I2	Month	Availability end date
29	"/"		
30 – 31	I2	Day	
32	"/"		
33 – 34	I2	Year	
	1X		
36	"Y"		
37 – 41	A5	Overhaul yard	
42	1X		

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS
43	"H"	
44	A5	Homeport
48		
	1X	
50	I7	Mandays (PSP)
56		
	1X	
58	"C"	
59	I2	Labor distribution histogram
60		
	1X	
62	A1	Fleet ("A" or "P")
63	A1	Inact. marker
	1X	
65	A1	Source of data
66	I1	Type commander indicator
67	I4	Sequence number
70		
71	I6	Mandays (PSP) for repair work
76		
77	I4	Record number
80		

LISTING OF PROGRAM

```
C*****PROGRAM PRCOF(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE8,TAPE9)  **** 10
C                                                                       PRCO 20
C                                                                       PRCO 30
C PRCOF (PRINT COMMON OVERHAUL FILE) RE-DETERMINES THE START FISCAL     PRCO 40
C YEAR, RENUMBERS THE RECORDS OF THE COMMON OVERHAUL FILE (COF), COPIES PRCO 50
C THEM ONTO UNIT 9, AND PRINTS THEM OUT WITH COLUMN HEADINGS.  OUTPUT   PRCO 60
C IS SINGLE SPACED WITH DOUBLE SPACE BETWEEN SHIPS.                     PRCO 70
C                                                                       PRCO 80
C THE FOLLOWING UNITS ARE USED BY THE PROGRAM:                          PRCO 90
C                                                                       PRCO 100
C     UNIT 6 - OUTPUT - PRINTOUT (WITH COLUMN HEADINGS) OF THE COMMON   PRCO 110
C                       OVERHAUL FILE                                   PRCO 120
C     UNIT 8 - INPUT  - COMMON OVERHAUL FILE                            PRCO 130
C     UNIT 9 - OUTPUT - RE-NUMBERED COF.                                PRCO 140
C                                                                       PRCO 150
C PROGRAMMED BY LINDA L. LAMATRICE, DTNSRDC, CODE 187 (APRIL, 1978).    PRCO 160
C                                                                       PRCO 170
C                                                                       PRCO 180
      REAL*8 RDATE,YARD,HOMEPT,SHIPUL,MDTOT,MDREP,SHIPP,SDATE,EDATE,    **** 190
     .    YARDP                                                         **** 195
C                                                                       PRCO 200
      DATA YARDP/1H /. BLANK/1H /                                       PRCO 210
C                                                                       PRCO 220
C ----------------------------------------------------------------      PRCO 230
C                                                                       PRCO 240
      NREC=0                                                            PRCO 250
      READ (8,100)  RDATE                                               PRCO 260
  100 FORMAT (16X,21HCOMMON OVERHAUL FILE ,3X,A8,T80,1H0)               PRCO 270
      WRITE (9,100)  RDATE                                              PRCO 280
C                                                                       PRCO 290
C READ NEXT RECORD FROM COMMON FILE.  ----------------------------      PRCO 300
  120 READ (8,130,END=400)  SHIPUL,FY,NTW,TW,SDATE,EDATE,YARD,HOMEPT,   **** 310
C*120 READ (8,130)          SHIPUL,FY,NTW,TW,SDATE,EDATE,YARD,HOMEPT,   **** 320
     .    MDTOT,LDH,FLEET,QUIT,SOURCE,TYCOM,ISEQ,MDREP,IDUM,IDUM,ISM,ISYPRCO 330
  130 FORMAT (A8,1X,2A2,A3,1X,A8,1H-,A8,2H Y,A5,2H H,A5,1X,A7,2H C,      PRCO 340
     .    A2,2(1X,2A1),A4,A6,I4,T10,I2,T18,I2,T24,I2)                   PRCO 350
C*****IF (EOF(8).NE.0.0)  GO TO 400                                     **** 360
C                                                                       PRCO 370
C RE-CALCULATE FISCAL YEAR AND WRITE REVISED RECORD.  ------------      PRCO 380
      IFY=ISY                                                           PRCO 390
      IF (ISM.GE.10)  IFY=IFY+1                                         PRCO 400
      NREC=NREC+1                                                       PRCO 410
      WRITE (9,130)      SHIPUL,BLANK,NTW,TW,SDATE,EDATE,YARD,HOMEPT,   PRCO 420
     .    MDTOT,LDH,FLEET,QUIT,SOURCE,TYCOM,ISEQ,MDREP,NREC,IFY         PRCO 430
C                                                                       PRCO 440
C NEW PAGE.  -----------------------------------------------------      PRCO 450
      IF (NREC.GT.1)  GO TO 200                                         PRCO 460
  135 LINE=6                                                            PRCO 470
      YARDP=YARD                                                        PRCO 475
      WRITE (6,140)  RDATE,YARD                                         PRCO 480
  140 FORMAT (1H1/12X,22HCOMMON OVERHAUL FILE: ,A8,//55X,6HYARD: ,A5/    PRCO 490
     .    55X,11(1H-)/)                                                 PRCO 495
  150 WRITE (6,160)                                                     PRCO 500
  160 FORMAT ( //14X,46HSHIP     FY  TW=  TW   AVAILABILITY DATES  YARD, **** 510
C*160 FORMAT ( //14X,46HSHIP     FY  TW#  TW   AVAILABILITY DATES  YARD, **** 520
     .    55H   HOMEPORT  MANDAYS  LDH  FLEET QUIT SOURCE TYCOM  SEQ,    PRCO 530
     .    10H  REP. MD./                                                PRCO 540
     .    14X,46H----    --  ---  --  ------------------  ----,         PRCO 550
     .    55H   --------  -------  ---  -----  ----  ------  -----  ---,  PRCO 560
     .    10H  --------/)                                               PRCO 570
      LINE=LINE+4                                                       PRCO 580
```

```
C                                                                       PRCO 590
C WRITE SHIP RECORD.  ------------------------------------------------  PRCO 600
  200 IF (YARD.NE.YARDP)  GO TO 135                                     PRCO 605
      IF (LINE.LT.57)  GO TO 220                                        PRCO 610
      WRITE (6,210)                                                     PRCO 620
  210 FORMAT (1H1)                                                      PRCO 630
      LINE=0                                                            PRCO 640
      GO TO 150                                                         PRCO 650
  220 WRITE (6,230)   NREC,SHIPUL,IFY,NTW,TW,SDATE,EDATE,YARD,HOMEPT,   PRCO 700
     .     MDTOT,LDH,FLEET,QUIT,SOURCE,TYCOM,ISEQ,MDREP                 PRCO 710
  230 FORMAT (1H , 4X,I4,3H.  .A8,2X,I2,3X,A2,2X,A3,2X,A8,1H-,A8,       PRCO 720
     .     3X,A5,4X,A5,2X,A7,3X,A2,4(5X,A1),3X,A4,3X,A6)                PRCO 730
      LINE=LINE+1                                                       PRCO 740
      GO TO 120                                                         PRCO 750
C                                                                       PRCO 760
C END-OF-FILE ENCOUNTERED ON COMMON FILE.  ---------------------------  PRCO 770
  400 STOP                                                              PRCO 780
      END                                                               PRCO 790
```

SAMPLE RUN

The COF created by the sample run of the LRPSCF program (see page 32) was used as input to the sort which precedes PRCOF. This section presents a listing of the PRCOF sample run.

__Unit 8 (input) - Common Overhaul File (sorted)__

			COMMON OVERHAUL FILE	07/22/78							0
CGN	40 82	RA	5/ 1/82- 7/ 1/82	YCHASN	HCHASN	12000	C 1	E	4	0	14
CV	41 81	RO	10/12/80-10/12/81	YLBECH	HALAM	396045	C 1	W	40312875		16
CV	43 78	RO	11/30/77-11/29/78	YLBECH	HALAM	342067	C24	W	40283915		15
CGN	37 81	RO	1/ 2/81- 3/ 5/82	YNORVA	HNORVA	278000	C13	E	10239080		11
CGN	38 79	RA	8/ 3/79-10/ 2/79	YNORVA	HNORVA	12000	C 1	E	4	8160	7
CGN	38 82	RO	7/ 1/82- 9/ 2/83	YNORVA	HNORVA	278000	C13	E	10252979		13
CGN	39 78	PS	6/26/78-10/25/78	YNORVA	HNORVA	35000	C 1	E	3	35000	4
CGN	40 79	PS	7/16/79-11/16/79	YNORVA	HNORVA	45000	C 1	E	3	45000	6
CGN	41 81	PS	12/15/80- 3/20/81	YNORVA	HNORVA	45000	C 1	E	3	45000	10
CV	59 80	RA	5/ 3/80- 7/29/80	YNORVA	HNORVA	60000	C17	E	42	34200	9
CV	59 82	RA	10/ 1/81- 1/ 1/82	YNORVA	HNORVA	60000	C17	E	43	33599	12
CV	60 79	RO	4/20/79-12/ 1/79	YNORVA	HMAYPT	240000	C23	E	60127199		5
CV	62 78	RO	11/21/77-10/19/78	YNORVA	HNORVA	346352	C23	E	40204347		3
CV	62 79	RA	9/ 1/79-11/26/79	YNORVA	HNORVA	69170	C17	E	41	40118	8
CGN	9 79	C	4/ 1/79- 4/ 1/82	YPUGET	HLBECH	739000	C 9	W	30739000		21
CGN	25 79	RA	1/15/79- 3/15/79	YPUGET	HLBECH	30000	C 1	W	24	23999	18
CGN	25 82	RO	6/ 1/82- 8/ 1/83	YPUGET	HLBECH	298507	C19	W	30256716		25
CGN	35 79	RA	1/15/79- 3/15/79	YPUGET	HSD	12000	C 1	W	11	0	20
CGN	35 81	RO	6/ 1/81- 8/ 1/82	YPUGET	HSD	298507	C19	W	20256716		24
CGN	36 79	RA	1/15/79- 4/16/79	YPUGET	HLBECH	47204	C 1	W	4	35875	19
CGN	36 80	RO	4/14/80- 6/14/81	YPUGET	HLBECH	278550	C 9	W	10239553		23
CGN	39 79	RA	7/15/79- 9/15/79	YPUGET	HSD	12000	C 1	W	4	0	22
CV	41 79	RA	11/10/78- 1/11/79	YPUGET	HALAM	40000	C17	W	36	20799	17
CGN	40 79	FO	11/ 6/78- 1/ 5/79	YSNEWS	HD 05	6000	C 1	E	2	6000	1
CGN	41 80	FO	3/17/80- 5/16/80	YSNEWS	HD 05	5000	C 1	E	2	5000	2

__Unit 9 (output) - Renumbered Common Overhaul File__

			COMMON OVERHAUL FILE	07/22/78							0
CGN	40 82	RA	5/ 1/82- 7/ 1/82	YCHASN	HCHASN	12000	C 1	E	4	0	1
CV	41 81	RO	10/12/80-10/12/81	YLBECH	HALAM	396045	C 1	W	40312875		2
CV	43 78	RO	11/30/77-11/29/78	YLBECH	HALAM	342067	C24	W	40283915		3
CGN	37 81	RO	1/ 2/81- 3/ 5/82	YNORVA	HNORVA	278000	C13	E	10239080		4
CGN	38 79	RA	8/ 3/79-10/ 2/79	YNORVA	HNORVA	12000	C 1	E	4	8160	5
CGN	38 82	RO	7/ 1/82- 9/ 2/83	YNORVA	HNORVA	278000	C13	E	10252979		6
CGN	39 78	PS	6/26/78-10/25/78	YNORVA	HNORVA	35000	C 1	E	3	35000	7
CGN	40 79	PS	7/16/79-11/16/79	YNORVA	HNORVA	45000	C 1	E	3	45000	8
CGN	41 81	PS	12/15/80- 3/20/81	YNORVA	HNORVA	45000	C 1	E	3	45000	9
CV	59 80	RA	5/ 3/80- 7/29/80	YNORVA	HNORVA	60000	C17	E	42	34200	10
CV	59 82	RA	10/ 1/81- 1/ 1/82	YNORVA	HNORVA	60000	C17	E	43	33599	11
CV	60 79	RO	4/20/79-12/ 1/79	YNORVA	HMAYPT	240000	C23	E	60127199		12
CV	62 78	RO	11/21/77-10/19/78	YNORVA	HNORVA	346352	C23	E	40204347		13
CV	62 79	RA	9/ 1/79-11/26/79	YNORVA	HNORVA	69170	C17	E	41	40118	14
CGN	9 79	C	4/ 1/79- 4/ 1/82	YPUGET	HLBECH	739000	C 9	W	30739000		15
CGN	25 79	RA	1/15/79- 3/15/79	YPUGET	HLBECH	30000	C 1	W	24	23999	16
CGN	25 82	RO	6/ 1/82- 8/ 1/83	YPUGET	HLBECH	298507	C19	W	30256716		17
CGN	35 79	RA	1/15/79- 3/15/79	YPUGET	HSD	12000	C 1	W	11	0	18
CGN	35 81	RO	6/ 1/81- 8/ 1/82	YPUGET	HSD	298507	C19	W	20256716		19
CGN	36 79	RA	1/15/79- 4/16/79	YPUGET	HLBECH	47204	C 1	W	4	35875	20
CGN	36 80	RO	4/14/80- 6/14/81	YPUGET	HLBECH	278550	C 9	W	10239553		21
CGN	39 79	RA	7/15/79- 9/15/79	YPUGET	HSD	12000	C 1	W	4	0	22
CV	41 79	RA	11/10/78- 1/11/79	YPUGET	HALAM	40000	C17	W	36	20799	23
CGN	40 79	FO	11/ 6/78- 1/ 5/79	YSNEWS	HD 05	6000	C 1	E	2	6000	24
CGN	41 80	FO	3/17/80- 5/16/80	YSNEWS	HD 05	5000	C 1	E	2	5000	25

Unit 6 - Printed Output

COMMON OVERHAUL FILE: 07/22/78

YARD: CHASN

	SHIP	FY	TW#	TW	AVAILABILITY DATES	YARD	HOMEPORT	MANDAYS	LDH	FLEET	QUIT	SOURCE	TYCOM	SEQ	REP. MD.
1.	CGN 40	82		RA	5/ 1/82- 7/ 1/82	CHASN	CHASN	12000	1	E				4	0

COMMON OVERHAUL FILE: 07/22/78

YARD: LBECH

	SHIP	FY	TW#	TW	AVAILABILITY DATES	YARD	HOMEPORT	MANDAYS	LDH	FLEET	QUIT	SOURCE	TYCOM	SEQ	REP. MD.
2.	CV 41	81		RO	10/12/80-10/12/81	LBECH	ALAM	396045	1	W				40	312875
3.	CV 43	78		RO	11/30/77-11/29/78	LBECH	ALAM	342067	24	W				40	283915

COMMON OVERHAUL FILE: 07/22/78

YARD: NORVA

	SHIP		FY	TW#	TW	AVAILABILITY DATES	YARD	HOMEPORT	MANDAYS	LDH	FLEET	QUIT	SOURCE	TYCOM	SEQ	REP. MD.
4.	CGN	37	81		RO	1/ 2/81- 3/ 5/82	NORVA	NORVA	278000	13	E				10	239080
5.	CGN	38	79		RA	8/ 3/79-10/ 2/79	NORVA	NORVA	12000	1	E				4	8160
6.	CGN	38	82		RO	7/ 1/82- 9/ 2/83	NORVA	NORVA	278000	13	E				10	252979
7.	CGN	39	78		PS	6/26/78-10/25/78	NORVA	NORVA	35000	1	E				3	35000
8.	CGN	40	79		PS	7/16/79-11/16/79	NORVA	NORVA	45000	1	E				3	45000
9.	CGN	41	81		PS	12/15/80- 3/20/81	NORVA	NORVA	45000	1	E				3	45000
10.	CV	59	80		RA	5/ 3/80- 7/29/80	NORVA	NORVA	60000	17	E				42	34200
11.	CV	59	82		RA	10/ 1/81- 1/ 1/82	NORVA	NORVA	60000	17	E				43	33599
12.	CV	60	79		RO	4/20/79-12/ 1/79	NORVA	MAYPT	240000	23	E				60	127199
13.	CV	62	78		RO	11/21/77-10/19/78	NORVA	NORVA	346352	23	E				40	204347
14.	CV	62	79		RA	9/ 1/79-11/26/79	NORVA	NORVA	69170	17	E				41	40118

COMMON OVERHAUL FILE: 07/22/78

YARD: PUGET

	SHIP		FY	TW#	TW	AVAILABILITY DATES	YARD	HOMEPORT	MANDAYS	LDH	FLEET	QUIT	SOURCE	TYCOM	SEQ	REP. MD.
15.	CGN	9	79		C	4/ 1/79- 4/ 1/82	PUGET	LBECH	739000	9	W				30	739000
16.	CGN	25	79		RA	1/15/79- 3/15/79	PUGET	LBECH	30000	1	W				24	23999
17.	CGN	25	82		RO	6/ 1/82- 8/ 1/83	PUGET	LBECH	298507	19	W				30	256716
18.	CGN	35	79		RA	1/15/79- 3/15/79	PUGET	SD	12000	1	W				11	0
19.	CGN	35	81		RO	6/ 1/81- 8/ 1/82	PUGET	SD	298507	19	W				20	256716
20.	CGN	36	79		RA	1/15/79- 4/16/79	PUGET	LBECH	47204	1	W				4	35875
21.	CGN	36	80		RO	4/14/80- 6/14/81	PUGET	LBECH	278550	9	W				10	239563
22.	CGN	39	79		RA	7/15/79- 9/15/79	PUGET	SD	12000	1	W				4	0
23.	CV	41	79		RA	11/10/78- 1/11/79	PUGET	ALAM	40000	17	W				36	20799

COMMON OVERHAUL FILE: 07/22/78

YARD: SNEWS

	SHIP		FY	TW#	TW	AVAILABILITY DATES	YARD	HOMEPORT	MANDAYS	LDH	FLEET	QUIT	SOURCE	TYCOM	SEQ	REP. MD.
24.	CGN	40	79		FO	11/ 6/78- 1/ 5/79	SNEWS	D 05	6000	1	E				2	6000
25.	CGN	41	80		FO	3/17/80- 5/16/80	SNEWS	D 05	5000	1	E				2	5000

PROGRAM UPCOF

DESCRIPTION

Updates to the Common Overhaul File (COF) are made by the UPCOF program. Permissible update operations include modification of existing COF records, deletion of records, and addition of new records to the file. Records to be changed or deleted are specified (on the update cards) by ship type, hull number, and sequence number. The COF is searched for a match in these parameters and the matching record is deleted or changed.

All the information necessary to accomplish an update operation is specified on a single card. An update code in column 5 of the card indicates the nature of the update. The following codes are permissible:

Update Code	Update Operation
A	Add record to file
D	Delete record from file
C or Δ	Change record on file

The format of the update cards is the same as that of the LRPS Run File records (with the record number omitted). For the deletion operation, the user need specify only the ship type, hull number, and sequence number of the availability to be deleted. For the change operation, the user must specify these three parameters and must fill in any fields which are to be changed. Note that the change operation is performed on a field-by-field basis; only those fields which are to be changed need be specified. All others will remain as they are on the file.

The update cards for deletions and changes must be in the same order as the records on the COF. The COF is sorted first by overhaul yard, then by ship type, then by hull number, and finally by sequence number. Comment cards (i.e., cards with an asterisk in column 1) may be used to separate update cards for the various yards.

The final update operation, the addition of new records to the file, is accomplished through the "add" update card. Add cards may be placed at any point in the update deck - the program places them on a temporary file and, after all change and delete operations have been successfully completed, transfers the added records to the end of the COF. Note that all fields of an add card should be filled in.

The run set-up for the UPCOF program is in two parts. The first part performs the updates and places the updated version of the file onto a backup file. The original COF is, at this point, unchanged. The user then has the opportunity to examine the output of UPCOF to determine whether he is satisfied with the results of the update. If he is satisfied, he then runs the second part of the update set-up. This part interchanges the contents of the COF and the backup file so that the COF contains the updated version and the backup, the original version. The COF is then sorted and printed out. If the user was not satisfied with the first part of the update, he merely changes the update cards and re-runs the program with the first run set-up.

Figure 2 presents the hierarchical diagram of the UPCOF program.

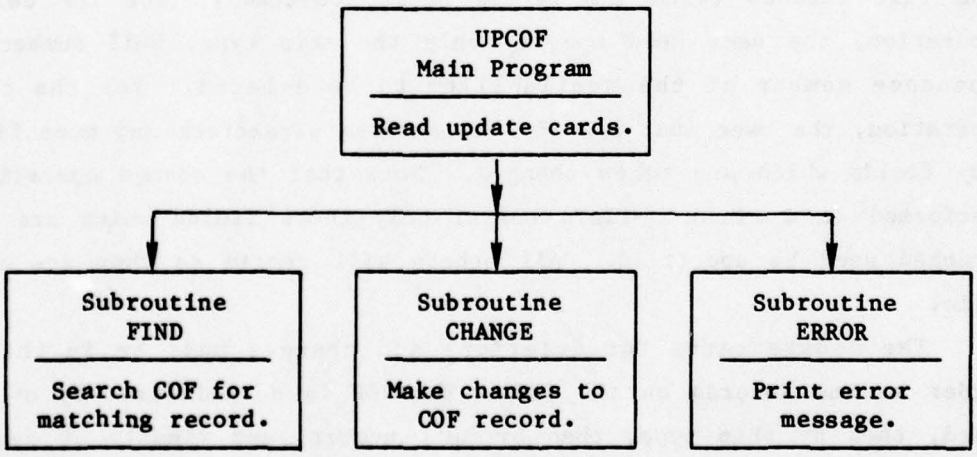

Figure 2 - Hierarchical Diagram of the UPCOF Program

RUN SET-UPS

The following set-ups are used in the updating process:

Part 1 - Update onto backup file.

```
//NVSUPCOF JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC PGM=UPCOF                                    (EXECUTE PROGRAM UPCOF)
//GO.FT06F001 DD SYSOUT=A                  (LIST OF UPDATES PERFORMED)
//GO.FT04F001 DD *                                      (UPDATE CARDS)
   UPCOF CARD INPUTS
//GO.FT01F001 DD DSN={COMMON OVERHAUL FILE},DISP=SHR       (INPUT FILE)
//GO.FT07F001 DD DSN={BACKUP COF},DISP=SHR                (OUTPUT FILE)
//GO.FT08F001 DD DSN=&&TEMP,DISP=(NEW,DELETE),UNIT=SYSDA,    (I/O FILE)
// SPACE=(800,200),DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
```

Part 2 - Interchange contents of COF and backup and print updated COF.

```
//NVSOKCOF JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC SDA                                  (SORT COMMON OVERHAUL FILE)
//SORTIN DD DSN={BACKUP COF},DISP=SHR
//SORTOUT DD DSN=&&TEMP,DISP=(,PASS),UNIT=SYSDA,
// SPACE=(800,200),DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
//SYSIN DD *    (SORT BY YARD, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(37,5,A,1,8,A,67,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                        (COPY LRCF TO LRCF.BACKUP)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={COMMON OVERHAUL FILE},DISP=SHR
//SYSUT2 DD DSN={BACKUP COF},DISP=SHR

// EXEC PGM=PRCOF                                (EXECUTE PROGRAM PRCOF)
//GO.FT05F001 DD *                                    (NO CARD INPUTS)
//GO.FT06F001 DD SYSOUT=A          (FORMATTED PRINTOUT OF COMMON FILE)
//GO.FT08F001 DD DSN=&&TEMP,DISP=(OLD,DELETE)              (INPUT FILE)
//GO.FT09F001 DD DSN={COMMON OVERHAUL FILE},DISP=SHR      (OUTPUT FILE)
```

INPUT/OUTPUT

The following units are used by the UPCOF program:

Unit 1 - input - Common Overhaul File (COF)

Unit 4 - input - Card inputs giving updates to be performed

Unit 6 - output - Printout of updates performed

Unit 7 - output - Updated COF (unsorted)

Unit 8 - I/O - Temporary file of new records.

An example of the unit 6 printout is given on pages 68 - 69.

"UPCOF" CARD INPUT

(Unit 4)

Run Date Card

CARD COLUMN	FORMAT	FIELD CONTENTS	
1	"R"		
	"U"		
	"N"		
	"D"		
	"A"		
	"T"		
	"E"		
	":"		
10			
11	I2	Month	Run date
13	"/"		
	I2	Day	
16	"/"		
	I2	Year	
18			

Update Cards. An update card is required for every record to be changed, deleted, or added to the COF. The basic format of the update card is the same as that of the LRPS Run File record - with the record number omitted. A code has been added to indicate the type of update operation to be performed. If the update code is "C" (change) or blank, the existing COF record with the ship type, hull number, and sequence number indicated on the update card is modified. In this case, only the records to be modified need be specified - all others will remain unchanged. If the update code is "D" (delete), the existing COF record with the ship type, hull number, and sequence number indicated on the update card is deleted from the COF.

Update Cards (continued)

Change and delete update cards must be in the same order as the records on the COF*, since searching the COF for a match begins with the next record on the COF following the one specified by the last deletion or change operation.

If the update code is "A" (add), a new record is added to the COF (and is placed at the end of the file). Add cards may appear at any point in the update deck. They need not be grouped together.

CARD COLUMN	FORMAT	FIELD CONTENTS
1	A4	Ship type
4		
	1X	Update code ("C" or blank, "D", or "A")
6	I4	Hull number
9		
	2X	
12	A5	Homeport
16		
17	I2	Month of availability start date
18	"/"	
20	I2	Day of availability start date
21	"/"	
23	I2	Year of availability start date
24		
25	I2	Month of availability end date
26	"/"	
28	I2	Day of availability end date
29	"/"	
31	I2	Year of availability end date
32		

*The COF is sorted first by shipyard, then by ship type, then by hull number, and finally by sequence number.

Update Cards (continued)

CARD COLUMN	FORMAT	FIELD CONTENTS
33	I4	Sequence number
36		
37	I2	Priority
38		
39	I2	Dock class
40		
41	A1	Inact. marker
42	I2	Labor distribution histogram
43		
44	A5	Overhaul yard
48		
49	I3	Start restraint
51		
52	I3	End restraint
54		
55	I4	Dock time
58		
	1X	
60	I7	Mandays (production shop productive)
66		
67	A3	Type of work
69		
70	A3	Specialization category
72		
73	A1	Yard ownership ("N" or "P")
74	A1	Coast ("E" or "W")
75	I3	Percent alterations
77		
	2X	
80	I1	Type select

Comment Card. Comment cards may be interspersed among the update cards. They are printed out on the output of the UPCOF program.

CARD COLUMN	FORMAT	FIELD CONTENTS
1	"*"	
2		
.		.
.	A79	Comment .
.		.
80		

COMMON OVERHAUL FILE

(Unit 1 - "UPCOF" Input and Unit 7 - "UPCOF" Output)

Header Record (one record)

RECORD POS	FORMAT	FIELD CONTENTS	
1			
. . .	16X	. . .	
16			
17	"C"		
	"O"		
	"M"		
	"M"		
	"O"		
	"N"		
	"O"		
	"V"		
	"E"		
	"R"		
	"H"		
	"A"		
	"U"		
	"L"		
	"F"		
	"I"		
	"L"		
36	"E"		
	4X		
41	I2	Month	File preparation date
43	"/"		
	I2	Day	
46	"/"		
	I2	Year	
48			

Availability Records (one for each availability)

RECORD POS.	FORMAT	FIELD CONTENTS	
1	A4	Ship type	
4			
5	I4	Hull number	
8			
	1X		
10	I2	Fiscal year of start of availability	
11			
12	I2	Type of work (numeric)	
13			
14	A3	Type of work (alpha)	
16			
	1X		
18	I2	Month	Availability start date
20	"/"		
	I2	Day	
23	"/"		
	I2	Year	
25			
26	"-"		
27	I2	Month	Availability end date
29	"/"		
	I2	Day	
32	"/"		
	I2	Year	
34			
	1X		
36	"Y"		
37	A5	Overhaul yard	
41			
42	1X		

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS
43	"H"	
44	A5	Homeport
48		
	1X	
50	I7	Mandays (PSP)
56		
	1X	
58	"C"	
59	I2	Labor distribution histogram
60		
	1X	
62	A1	Fleet ("A" or "P")
63	A1	Inact. marker
	1X	
65	A1	Source of data
66	I1	Type commander indicator
67	I4	Sequence number
70		
71	I6	Mandays (PSP) for repair work
76		
77	I4	Record number
80		

LISTING OF PROGRAM

```
C*****PROGRAM UPCOF(INPUT,OUTPUT,TAPE4=INPUT,TAPE6=OUTPUT,TAPE1,TAPE7,    ****  10
C****.     TAPE8)                                                        ****  20
C                                                                        UPCO  30
C                                                                        UPCO  40
C UPCOF (UPDATE COMMON OVERHAUL FILE) IS CAPABLE OF PERFORMING THE       UPCO  50
C FOLLOWING OPERATIONS:                                                  UPCO  60
C                                                                        UPCO  70
C      - DELETE OR CHANGE PARTICULAR COF RECORDS.                        UPCO  80
C      - ADD NEW RECORDS TO THE COF.                                     UPCO  90
C                                                                        UPCO 100
C THE FORMAT FOR THE REPLACEMENT CARDS AND NEW-RECORD CARDS IS THE       UPCO 110
C SAME AS THE LRPS RUN FILE RECORDS (WITH THE RECORD NUMBER OMITTED).    UPCO 120
C THE CHANGE AND DELETE OPERATIONS ARE PERFORMED FIRST BY MATCHING       UPCO 130
C THE SHIP TYPE, HULL NUMBER, AND SEQUENCE NUMBER INDICATED ON THE       UPCO 140
C UPDATE CARD WITH THE CORRESPONDING RECORD ON THE COF.  THESE CARDS     UPCO 150
C MUST BE IN THE SAME ORDER AS THE RECORDS ON THE COF (NAMELY, BY YARD,  UPCO 160
C SHIP TYPE, HULL NUMBER, AND SEQUENCE NUMBER).  ADDITION UPDATE CARDS   UPCO 170
C MAY BE PLACED ANYWHERE IN THE INPUT DECK.                               UPCO 180
C                                                                        UPCO 190
C PRINTOUT OF THE PROGRAM CONSISTS OF A LIST OF ALL CHANGES,             UPCO 200
C DELETIONS, AND ADDITIONS AND A NOTATION OF ANY ERRORS ENCOUNTERED.     UPCO 210
C                                                                        UPCO 220
C THE FOLLOWING UNITS ARE USED BY THE PROGRAM:                           UPCO 230
C                                                                        UPCO 240
C      UNIT 1 - INPUT  - COMMON OVERHAUL FILE (COF)                      UPCO 250
C      UNIT 4 - INPUT  - CARD INPUTS (UPDATES TO BE PERFORMED)           UPCO 260
C      UNIT 6 - OUTPUT - PRINTOUT OF UPDATES PERFORMED                   UPCO 270
C      UNIT 7 - OUTPUT - UPDATED COF (UNSORTED)                          UPCO 280
C      UNIT 8 - I/O    - TEMPORARY FILE OF ADDED RECORDS.                UPCO 290
C                                                                        UPCO 300
C PROGRAMMED BY LINDA L. LAMATRICE, DTNSRDC, CODE 187 (MAY 1978).        UPCO 310
C                                                                        UPCO 320
C ---------------------------------------------------------------------  UPCO 330
C                                                                        UPCO 340
      REAL*8 RUNID,FILEID,FIELD,PROPT,DATA,UNDER                         **** 350
C                                                                        UPCO 360
      INTEGER HULLUP                                                     UPCO 370
C                                                                        UPCO 380
      DIMENSION UNDER(22),DATA(22),FIELD(26),PROPT(2,5),CARD(20)         UPCO 390
C                                                                        UPCO 400
      DATA BLANK/1H /,DEL,CHG,ADD/1HD,1HC,1HA/, AST/1H*/,                UPCO 410
     .     RBLANK/1H /, PROPT/7HDELETE ,7HRECORD:,8HCHANGE -,6H FROM:,   UPCO 420
     .     1H ,1H ,8H       -,6H-- TO:,8HADD RECO,3HRD:/, IEOF4/0/,      UPCO 430
     .     IADD/0/                                                       UPCO 435
C                                                                        UPCO 440
C ---------------------------------------------------------------------  UPCO 450
C                                                                        UPCO 460
C                                                                        UPCO 470
C READ RUN DATE CARD.  ------------------------------------------------  UPCO 480
C*****CALL ERRSET(NERR,99)                                               **** 490
      READ (4,100)  RUNID                                                UPCO 500
  100 FORMAT (10X,A8)                                                    UPCO 510
      WRITE (7,110)  RUNID                                               UPCO 520
  110 FORMAT (16X,21HCOMMON OVERHAUL FILE ,3X,A8,31X,1H0)                UPCO 530
      READ (1,110)  FILEID                                               UPCO 540
      WRITE (6,120)                                                      UPCO 550
  120 FORMAT (1H1)                                                       UPCO 560
      WRITE (6,130)  RUNID,FILEID                                        UPCO 570
  130 FORMAT (5X,10HRUN DATE: ,A8/5X,18(1H-)//                           UPCO 580
     .     5X,22HUPDATES TO COF DATED: ,A8/5X,30(1H-)///)                UPCO 590
      LINE=7                                                             UPCO 600
```

```
C                                                                       UPCO 610
C READ NEXT UPDATE CARD.  ------------------------------------------   UPCO 620
      IER=0                                                             UPCO 630
  150 DO 160 I=1,22                                                     UPCO 640
  160 UNDER(I)=RBLANK                                                   UPCO 650
  170 READ (4,180,END=350)  FIRST,(FIELD(I),I=1,25)                     **** 660
C*170 READ (4,180)          FIRST,(FIELD(I),I=1,25)                     **** 670
  180 FORMAT (A1,T1,A4,1X,A4,2X,A5,2(A2,1X),A2,2(A2,1X),A2,A4,2A2,      UPCO 680
     .    A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1)                      UPCO 690
C*****IF (EOF(4).NE.0.0)  GO TO 350                                     **** 700
      IF (FIRST.EQ.AST)  GO TO 440                                      UPCO 710
      BACKSPACE 4                                                       UPCO 720
      READ (4,190)  SHIPUP,OPER,HULLUP,ISEQUP,MANDAY,IPCTA              UPCO 730
  190 FORMAT (A4,A1,I4,T33,I4,T60,I7,T75,I3)                            UPCO 740
C                                                                       UPCO 750
C OPERATION IS DELETE.  --------------------------------------------   UPCO 760
      IF (OPER.NE.DEL)  GO TO 250                                       UPCO 770
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA,MANDAY,MDREP)             UPCO 780
      IF (IER.NE.0)  GO TO 410                                          UPCO 790
  200 LINE=LINE+1                                                       UPCO 800
      IF (LINE.LT.55)  GO TO 210                                        UPCO 810
      LINE=1                                                            UPCO 820
      WRITE (6,120)                                                     UPCO 830
  210 WRITE (6,220)  (PROPT(I,1),I=1,2),DATA                            UPCO 840
  220 FORMAT (5X,2A8,2A4,1X,2A2,A3,1X,2(A2,1H/),A2,1H-,2(A2,1H/),A2,    UPCO 850
     .    2H Y,A5,2H H,A5,1X,A7,2H C,A2,2(1X,2A1),A4,A6,A4,T92,I6)       UPCO 860
      WRITE (6,330)                                                     UPCO 870
      LINE=LINE+2                                                       UPCO 890
      GO TO 170                                                         UPCO 900
C                                                                       UPCO 910
C OPERATION IS CHANGE.  --------------------------------------------   UPCO 920
  250 IF (OPER.EQ.ADD) GO TO 300                                        UPCO 930
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA,MANDAY,MDREP)             UPCO 940
      IF (IER.NE.0)  GO TO 410                                          UPCO 950
      WRITE (6,330)                                                     UPCO 955
      IF (LINE.LT.53)  GO TO 270                                        UPCO 960
      LINE=5                                                            UPCO 970
      WRITE (6,120)                                                     UPCO 980
  270 WRITE (6,220)  (PROPT(I,2),I=1,2),DATA                            UPCO 990
      CALL CHANGE(0,DATA,FIELD,UNDER,MANDAY,IPCTA,MDREP)                UPCO1000
      WRITE (6,275)  (PROPT(I,3),I=1,2),UNDER                           UPCO1010
  275 FORMAT (5X,2A8,2A4,1X,2A2,A3,1X,2(A2,1H ),A2,1H ,2(A2,1H ),A2,    UPCO1020
     .    2H  ,A5,2H  ,A5,1X,A7,2H  ,A2,2(1X,2A1),A4,A6,A4)             UPCO1030
      WRITE (6,220)  (PROPT(I,4),I=1,2),DATA,MDREP                      UPCO1040
      WRITE (6,330)                                                     UPCO1050
      LINE=LINE+5                                                       UPCO1060
      GO TO 150                                                         UPCO1070
C                                                                       UPCO1080
C OPERATION IS ADD.  -----------------------------------------------   UPCO1090
  300 CALL CHANGE(1,DATA,FIELD,UNDER,MANDAY,IPCTA,MDREP)                UPCO1100
      IADD=1                                                            UPCO1105
      IF (LINE.LT.58)  GO TO 320                                        UPCO1110
      LINE=0                                                            UPCO1120
      WRITE (6,120)                                                     UPCO1130
  320 WRITE (6,220)  (PROPT(I,5),I=1,2),DATA,MDREP                      UPCO1140
      WRITE (6,330)                                                     UPCO1150
  330 FORMAT (1X)                                                       UPCO1160
      LINE=LINE+2                                                       UPCO1170
      GO TO 170                                                         UPCO1180
C                                                                       UPCO1190
C TRANSFER NEW RECORDS TO COF.  ------------------------------------   UPCO1200
  350 IER=1                                                             UPCO1210
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA,MANDAY,MDREP)             UPCO1220
```

```
      IF (IADD.EQ.0)  STOP                                                  UPC01225
      REWIND 8                                                              UPC01230
  360 READ (8,370,END=420)  CARD                                            ****1240
C*360 READ (8,370)           CARD                                           ****1250
C*****IF (EOF(8).NE.0.0)  GO TO 420                                         ****1260
  370 FORMAT (20A4)                                                         UPC01270
      WRITE (7,370)  CARD                                                   UPC01280
      GO TO 360                                                             UPC01290
C                                                                           UPC01300
C PROCESS ERRORS.  ------------------------------------------------         UPC01310
  410 CALL ERROR(LINE,OPER,SHIPUP,HULLUP,ISEQUP)                            UPC01320
  420 STOP                                                                  UPC01330
C                                                                           UPC01340
C WRITE COMMENT.  -------------------------------------------------         UPC01350
  440 BACKSPACE 4                                                           UPC01360
      READ (4,450)  CARD                                                    UPC01370
  450 FORMAT (1X,19A4,A3)                                                   UPC01380
      IF (LINE.LT.55)  GO TO 460                                            UPC01400
      LINE=1                                                                UPC01410
      WRITE (6,120)                                                         UPC01420
  460 WRITE (6,470)  CARD                                                   UPC01430
  470 FORMAT(1H0,20X,20A4)                                                  UPC01440
      WRITE (6,330)                                                         UPC01450
      LINE=LINE+3                                                           UPC01460
      GO TO 170                                                             UPC01470
      END                                                                   UPC01480
```

```
      SUBROUTINE CHANGE (ICHG,DATA,FIELD,UNDER,MANDAY,IPCTA,MDREP)      CHAN  10
C                                                                       CHAN  20
C                                                                       CHAN  30
C SUBROUTINE CHANGE EXAMINES EACH DATA POINT OF THE DATA ARRAY AND THE  CHAN  40
C CORRESPONDING ELEMENT OF THE FIELD ARRAY TO DETERMINE WHETHER OR NOT  CHAN  50
C THE ELEMENT IS TO BE CHANGED.  IF THE FIELD ARRAY ELEMENT IS BLANK,   CHAN  60
C THE APPROPRIATE DATA ARRAY ELEMENT IS NOT CHANGED.  IF THE FIELD      CHAN  70
C ARRAY ELEMENT IS NOT BLANK, THE DATA ARRAY ELEMENT IS SET EQUAL       CHAN  80
C TO THE FIELD ARRAY ELEMENT.                                           CHAN  90
C                                                                       CHAN 100
C NOTE THAT THE DATA ARRAY CONTAINS THE VARIABLES OF THE COF, IN THE    CHAN 110
C SAME ORDER AS THEY APPEAR ON THE COF RECORDS.  THE FIELD ARRAY        CHAN 120
C CONTAINS VARIABLES IN THE ORDER OF THE LRPS RUN FILE RECORDS.         CHAN 130
C                                                                       CHAN 140
C SUBROUTINE CHANGE IS ALSO USED (IF ICHG.NE.0) DURING THE ADD OPERA-   CHAN 150
C TION TO TRANSFER NEW-RECORD INFORMATION FROM THE FIELD ARRAY TO THE    CHAN 160
C PROPER POSITION IN THE DATA ARRAY.                                    CHAN 170
C                                                                       CHAN 180
C THE FOLLOWING TABLE INDICATES THE SUBSCRIPTS OF THE DATA AND FIELD    CHAN 190
C ARRAYS FOR THE VARIOUS PARAMETERS.                                    CHAN 200
C                                                                       CHAN 210
C                                                                       CHAN 220
C                        FIELD   DATA                        FIELD   DATA  CHAN 230
C     PARAMETER          ARRAY   ARRAY    PARAMETER          ARRAY   ARRAY CHAN 240
C     ---------          -----   -----    ---------          -----   ----- CHAN 250
C     SHIP TYPE            1       1      START RESTRAINT    16            CHAN 260
C     HULL NUMBER          2       2      END RESTRAINT      17            CHAN 270
C     HOMEPORT             3      13      DOCK TIME          18            CHAN 280
C     AVAIL. START DATE                   MANDAYS (TOTAL)    19      14    CHAN 290
C        MONTH             4       6      TYPE OF WORK       20       5    CHAN 300
C        DAY               5       7      SPECIALIZATION     21            CHAN 310
C     AVAIL. END DATE                     N/P                22            CHAN 320
C        MONTH             7       9      COAST/FLEET        23      16    CHAN 330
C        DAY               8      10      PERCENT ALT.       24            CHAN 340
C        YEAR              9      11      REPAIR MANDAYS             21    CHAN 350
C     SEQUENCE NUMBER      10      20      TYPE SELECT        25            CHAN 360
C     PRIORITY             11              RECORD NUMBER              22    CHAN 370
C     DOCK CLASS           12              FISCAL YEAR                 3    CHAN 380
C     INACT. MARKER        13      17      TYPE OF WORK (NUM)          4    CHAN 390
C     LDH                  14      15      SOURCE OF DATA             18    CHAN 400
C     SHIPYARD             15      12      TYCOM INDICATOR            19    CHAN 410
C                                                                       CHAN 420
C                                                                       CHAN 430
C -------------------------------------------------------------------  CHAN 440
C                                                                       CHAN 450
      REAL*8 DATA,FIELD,UNDER,RBLANK,HATS                               **** 460
C                                                                       CHAN 470
      DIMENSION DATA(22),FIELD(26),UNDER(22),ISUB(21)                   CHAN 480
C                                                                       CHAN 490
C*****DATA RBLANK,HATS/1H ,8H^^^^^^^^/,                                 **** 500
      DATA RBLANK,HATS/1H ,8H;;;;;;;;/,                                 **** 510
     .    ISUB/1,2,26,26,20,4,5,6,7,8,9,15,3,19,14,23,13,26,26,10,24/   CHAN 520
C                                                                       CHAN 530
C -------------------------------------------------------------------  CHAN 540
C                                                                       CHAN 550
      UNDER(22)=RBLANK                                                  CHAN 560
      FIELD(26)=RBLANK                                                  CHAN 570
      DO 110 I=1,21                                                     CHAN 580
      J=ISUB(I)                                                         CHAN 590
      IF (ICHG.NE.0)  GO TO 100                                         CHAN 600
      UNDER(I)=RBLANK                                                   CHAN 610
      IF (FIELD(J).EQ.RBLANK)  GO TO 110                                CHAN 620
      UNDER(I)=HATS                                                     CHAN 630
```

```
  100 DATA(I)=FIELD(J)                                                    CHAN 640
  110 CONTINUE                                                            CHAN 650
C                                                                         CHAN 660
      UNDER(1) =RBLANK                                                    CHAN 670
      UNDER(2) =RBLANK                                                    CHAN 680
      UNDER(20)=RBLANK                                                    CHAN 690
      J=7                                                                 CHAN 700
      IF (ICHG.EQ.0)  GO TO 120                                           CHAN 710
      DATA(22)=RBLANK                                                     CHAN 720
      J=8                                                                 CHAN 730
  120 DATA(21)=RBLANK                                                     CHAN 740
      IF (FIELD(24).EQ.RBLANK)  GO TO 150                                 CHAN 750
      MDREP=FLOAT(MANDAY)*(1.0 - FLOAT(IPCTA)/100.0) + 0.5                CHAN 760
C                                                                         CHAN 770
C WRITE NEW COF RECORD.  ----------------------------------------         CHAN 780
  150 WRITE (J,160)  DATA,MDREP                                           CHAN 790
  160 FORMAT (2A4,1X,2A2,A3,1X,2(A2,1H/),A2,1H-,2(A2,1H/),A2,             CHAN 800
     .    2H Y,A5,2H H,A5,1X,A7,2H C,A2,2(1X,2A1),A4,A6,A4,T71,I6)       CHAN 810
      RETURN                                                              CHAN 820
      END                                                                 CHAN 830
```

```
      SUBROUTINE ERROR(LINE,OPER,SHIPUP,HULLUP,ISEQUP)                  ERRO  10
C                                                                       ERRO  20
C                                                                       ERRO  30
C SUBROUTINE ERROR IS CALLED WHEN THERE IS NO-MATCH ON THE CURRENT      ERRO  40
C AVAILABILITY.  ERROR PRINTS A MESSAGE DESCRIBING THE ERROR.           ERRO  50
C                                                                       ERRO  60
C                                                                       ERRO  70
      INTEGER HULLUP                                                    ERRO  80
C                                                                       ERRO  90
      DIMENSION DATA(20)                                                ERRO 100
C                                                                       ERRO 110
      DATA AST/1H*/                                                     ERRO 120
C                                                                       ERRO 130
C ---------2---------------------------------------------------------- ERRO 140
C                                                                       ERRO 150
      IF (LINE.LT.51)  GO TO 110                                        ERRO 160
      LINE=0                                                            ERRO 170
      WRITE (6,100)                                                     ERRO 180
  100 FORMAT (1H1)                                                      ERRO 190
  110 LINE=LINE+5                                                       ERRO 200
      WRITE (6,120)                                                     ERRO 210
  120 FORMAT (5X,87A1)                                                  ERRO 220
      WRITE (6,120)  (AST,I=1,87),AST                                   ERRO 230
      WRITE (6,140)  OPER,SHIPUP,HULLUP,ISEQUP                          ERRO 240
  140 FORMAT (5X,43H*  NO-MATCH ON COMMON FILE FOR AVAILABILITY,        ERRO 250
     .    33H INDICATED BY THIS UPDATE CARD:  ,A1,3H - ,A4,2I4/5X,1H*/  ERRO 260
     .    5X,46H*  REMAINING UPDATE CARDS CANNOT BE PROCESSED:/5X,1H*)  ERRO 270
  150 READ (4,155,END=190)  DATA                                        **** 280
C*150 READ (4,155)          DATA                                        **** 290
  155 FORMAT (20A4)                                                     ERRO 300
C*****IF (EOF(4).NE.0.0)  GO TO 190                                     **** 310
  160 IF (LINE.LT.58)  GO TO 165                                        ERRO 320
      WRITE (6,100)                                                     ERRO 330
      LINE=0                                                            ERRO 340
  165 WRITE (6,170)  DATA                                               ERRO 350
  170 FORMAT (5X,1H*,5X,20A4)                                           ERRO 360
      LINE=LINE+1                                                       ERRO 370
      GO TO 150                                                         ERRO 380
C                                                                       ERRO 390
  190 WRITE (6,120)  (AST,I=1,87)                                       ERRO 400
      WRITE (6,200)                                                     ERRO 410
  200 FORMAT (1H0)                                                      ERRO 420
      LINE=LINE+3                                                       ERRO 430
      RETURN                                                            ERRO 440
      END                                                               ERRO 450
```

```
      SUBROUTINE FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA,MANDAY,MDREP)        FIND  10
C                                                                        FIND  20
C                                                                        FIND  30
C SUBROUTINE FIND READS RECORDS FROM UNIT 1 AND COPIES THEM ONTO UNIT 7 FIND  40
C UNTIL A MATCH IS MADE ON SHIP TYPE (SHIPUP), HULL NUMBER (HULLUP), ANDFIND  50
C SEQUENCE NUMBER (ISEQUP).  THE DATA FROM THE MATCHING RECORD IS       FIND  60
C RETURNED THROUGH THE DATA ARRAY AND THE VARIABLES MANDAY AND MDREP.   FIND  70
C                                                                        FIND  80

C IF AN END-OF-FILE IS ENCOUNTERED ON UNIT 7 BEFORE A MATCH IS FOUND,    FIND  90
C IER IS SET TO 1.                                                       FIND 100
C                                                                        FIND 110
C                                                                        FIND 120
      REAL*8 DATA                                                        **** 130
C                                                                        FIND 140
      INTEGER HULLUP                                                     FIND 150
C                                                                        FIND 160
      DIMENSION DATA(22)                                                 FIND 170
C                                                                        FIND 180
C ---------------------------------------------------------------------- FIND 190
C                                                                        FIND 200
      MDNEW=MANDAY                                                       FIND 210
  100 READ (1,110,END=150)  DATA,SHIP,IHULL,MANDAY,ISEQ,MDREP            **** 220
C*100 READ (1,110)          DATA,SHIP,IHULL,MANDAY,ISEQ,MDREP            **** 230
  110 FORMAT (2A4,1X,2A2,A3,1X,2(A2,1H/),A2,1H-,2(A2,1H/),A2,            FIND 240
     .     2H Y,A5,2H H,A5,1X,A7,2H C,A2,2(1X,2A1),A4,A6,A4,             FIND 250
     .     T1,A4,I4,T50,I7,T67,I4,I6)                                    FIND 260
C*****IF (EOF(1).NE.0.0)  GO TO 150                                      **** 270
      IF (IER.EQ.1)  GO TO 120                                           FIND 280
      IF (SHIP.EQ.SHIPUP .AND. IHULL.EQ.HULLUP .AND. ISEQ.EQ.ISEQUP)     FIND 290
     .     GO TO 130                                                     FIND 300
  120 WRITE (7,110)  DATA                                                FIND 310
      GO TO 100                                                          FIND 320
C                                                                        FIND 330
  130 IF (MDNEW.GT.0)  MANDAY=MDNEW                                      FIND 340
      RETURN                                                             FIND 350
C                                                                        FIND 360
  150 IER=1                                                              FIND 370
      RETURN                                                             FIND 380
      END                                                                FIND 390
```

SAMPLE RUN

The sample run of the UPCOF program uses, as its input file, the sorted COF produced by the PRCOF program. A listing of this file is given on page 44. This section provides listings of all other input/output units used in the sample run of UPCOF.

Unit 4 - Card Input

```
RUN DATE:  5/11/78
*-----------------------------------LBECH-------------------------------------
CV  C  41                          40                                      21
*-----------------------------------NORVA-------------------------------------
CGN A  37  NORVA10/01/7912/01/79    5 1 0  1NORVA  0  0   0   12000RA AANNE 12  1
CGN D  39                           3
CGN D  40                           3
CGN D  41                           3
CV  C  62      10        12        41
*-----------------------------------PUGET-------------------------------------
CGN    35                          11                                      18
CGN C  39      10        12         4                                      26
*-----------------------------------SNEWS-------------------------------------
CGN C  40  NORVA                    2                     5000
CGN A  39  NORVA09/01/8211/01/83   10 1 0 13NORVA  3275  80  275000RO AANNE 22  1
CGN    41  NORVA                    2
```

Unit 6 - Printed Output

RUN DATE: 5/11/78

UPDATES TO COF DATED: 07/22/78

```
                    ------------------------------------LBECH-------------------------------------

CHANGE - FROM:  CV   41 81  RO  10/12/80-10/12/81 YLBECH HALAM   396045 C 1 W      40312875   2
       --- TO:  CV   41 81  RO  10/12/80-10/12/81 YLBECH HALAM   396045 C 1 W      40312876   2

                    ------------------------------------NORVA-------------------------------------

ADD RECORD:     CGN  37     RA  10/01/79-12/01/79 YNORVA HNORVA   12000 C 1 E       5 10560
DELETE  RECORD: CGN  39 78  PS   6/26/78-10/25/78 YNORVA HNORVA   35000 C 1 E       3 35000   7
DELETE  RECORD: CGN  40 79  PS   7/16/79-11/16/79 YNORVA HNORVA   45000 C 1 E       3 45000   8
DELETE  RECORD: CGN  41 81  PS  12/15/80- 3/20/81 YNORVA HNORVA   45000 C 1 E       3 45000   9

CHANGE - FROM:  CV   62 79  RA   9/ 1/79-11/26/79 YNORVA HNORVA   69170 C17 E      41 40118  14
       --- TO:  CV   62 79  RA  10/ 1/79-12/26/79 YNORVA HNORVA   69170 C17 E      41 40118  14

                    ------------------------------------PUGET-------------------------------------

CHANGE - FROM:  CGN  35 79  RA   1/15/79- 3/15/79 YPUGET HSD      12000 C 1 W      11     0  18
       --- TO:  CGN  35 79  RA   1/15/79- 3/15/79 YPUGET HSD      12000 C 1 W      11  9840  18

CHANGE - FROM:  CGN  39 79  RA   7/15/79- 9/15/79 YPUGET HSD      12000 C 1 W       4     0  22
       --- TO:  CGN  39 79  RA  10/15/79-12/15/79 YPUGET HSD      12000 C 1 W       4  8880  22
```

```
------------------------------------SNEWS---------------------------------------

CHANGE - FROM:  CGN   40 79   FO   11/ 6/78- 1/ 5/79 YSNEWS HD 05      6000 C 1 E        2  6000   24
                                                            ^^^^^ ^^^^^^^
    --- TO:     CGN   40 79   FO   11/ 6/78- 1/ 5/79 YSNEWS HNORVA     5000 C 1 E        2  6000   24

ADD RECORD:     CGN   39      RO   09/01/82-11/01/83 YNORVA HNORVA   275000 C13 E       10214500

CHANGE - FROM:  CGN   41 80   FO    3/17/80- 5/16/80 YSNEWS HD 05      5000 C 1 E        2  5000   25
                                                            ^^^^^
    --- TO:     CGN   41 80   FO    3/17/80- 5/16/80 YSNEWS HNORVA     5000 C 1 E        2  5000   25
```

Unit 7 (output) - Updated Common Overhaul File (unsorted)

```
                         COMMON OVERHAUL FILE      5/11/78                                       0
CGN    40 82   RA    5/ 1/82- 7/ 1/82 YCHASN HCHASN    12000 C 1 E          4      0   1
CV     41 81   RO   10/12/80-10/12/81 YLBECH HALAM    396045 C 1 W          40312876   2
CV     43 78   RO   11/30/77-11/29/78 YLBECH HALAM    342067 C24 W          40283915   3
CGN    37 81   RO    1/ 2/81- 3/ 5/82 YNORVA HNORVA   278000 C13 E          10239080   4
CGN    38 79   RA    8/ 3/79-10/ 2/79 YNORVA HNORVA    12000 C 1 E          4   8160   5
CGN    38 82   RO    7/ 1/82- 9/ 2/83 YNORVA HNORVA   278000 C13 E          10252979   6
CV     59 80   RA    5/ 3/80- 7/29/80 YNORVA HNORVA    60000 C17 E          42 34200  10
CV     59 82   RA   10/ 1/81- 1/ 1/82 YNORVA HNORVA    60000 C17 E          43 33599  11
CV     60 79   RO    4/20/79-12/ 1/79 YNORVA HMAYPT   240000 C23 E          60127199  12
CV     62 78   RO   11/21/77-10/19/78 YNORVA HNORVA   346352 C23 E          40204347  13
CV     62 79   RA   10/ 1/79-12/26/79 YNORVA HNORVA    69170 C17 E          41 40118  14
CGN     9 79   C     4/ 1/79- 4/ 1/82 YPUGET HLBECH   739000 C 9 W          30739000  15
CGN    25 79   RA    1/15/79- 3/15/79 YPUGET HLBECH    30000 C 1 W          24 23999  16
CGN    25 82   RO    6/ 1/82- 8/ 1/83 YPUGET HLBECH   298507 C19 W          30256716  17
CGN    35 79   RA    1/15/79- 3/15/79 YPUGET HSD       12000 C 1 W          11  9840  18
CGN    35 81   RO    6/ 1/81- 8/ 1/82 YPUGET HSD      298507 C19 W          20256716  19
CGN    36 79   RA    1/15/79- 4/16/79 YPUGET HLBECH    47204 C 1 W          4  35875  20
CGN    36 80   RO    4/14/80- 6/14/81 YPUGET HLBECH   278550 C 9 W          10239553  21
CGN    39 79   RA   10/15/79-12/15/79 YPUGET HSD       12000 C 1 W          4   8880  22
CV     41 79   RA   11/10/78- 1/11/79 YPUGET HALAM     40000 C17 W          36 20799  23
CGN    40 79   FO   11/ 6/78- 1/ 5/79 YSNEWS HNORVA     5000 C 1 E          2   6000  24
CGN    41 80   FO    3/17/80- 5/16/80 YSNEWS HNORVA     5000 C 1 E          2   5000  25
CGN    37      RA   10/01/79-12/01/79 YNORVA HNORVA    12000 C 1 E          5  10560
CGN    39      RO   09/01/82-11/01/83 YNORVA HNORVA   275000 C13 E          10214500
```

Unit 8 (input/output) - Temporary File of New Records

```
CGN    37      RA   10/01/79-12/01/79 YNORVA HNORVA    12000 C 1 E          5  10560
CGN    39      RO   09/01/82-11/01/83 YNORVA HNORVA   275000 C13 E          10214500
```

PROGRAM UPRUN

DESCRIPTION

Updates to the LRPS Run Files are made by the UPRUN program. UPRUN updates only one Run File at a time. Permissible update operations include modification of existing Run File records, deletion of records, and addition of new records to the file. Records to be changed or deleted are specified (on the update cards) by ship type, hull number, and sequence number. The Run File is searched for a match in these parameters and the matching record is deleted or changed.

All the information necessary to accomplish an update operation is specified on a single card. An update code in column 5 of the card indicates the nature of the update. The following codes are permissible:

Update Code	Update Operation
A	Add record to file
D	Delete record from file
C or Δ	Change record on file

The format of the update cards is the same as that of the Run File records (with the record number omitted). For the deletion operation, the user need specify only the ship type, hull number, and sequence number of the availability to be deleted. For the change operation, the user must specify these three parameters and must fill in any fields which are to be changed. Note that the change operation is performed on a field-by-field basis; only those fields which are to be changed need be specified. All others will remain as they are on the file.

The update cards for deletions and changes must be in the same order as the records on the Run File. The Run File is sorted first by ship type, then by hull number, and finally by sequence number. To insure that the update cards are input to UPRUN in this order, they are sorted as part of the run set-up for UPRUN.

The final update operation, the addition of new records to the file, is accomplished through the "add" update card. Add cards may be placed at any point in the update deck; the program places them on a temporary file and, after all change and delete operations have been successfully completed, transfers the added records to the end of the Run File. Note that all fields of an add card should be filled in.

The run set-up for the UPRUN program is in two parts. The first part performs the updates and places the updated version of the file onto a backup file. The original Run File is, at this point, unchanged. The user then has the opportunity to examine the output of UPRUN to determine whether he is satisfied with the results of the update. If he is satisfied, he then runs the second part of the update set-up. This part interchanges the contents of the Run File and the backup file so that the Run File contains the updated version and the backup, the original version. The Run File is then sorted and printed out. If the user was not satisfied with the first part of the update, he merely changes the update cards and re-runs the program with the first run set-up.

Figure 3 presents the hierarchical diagram of the UPRUN program.

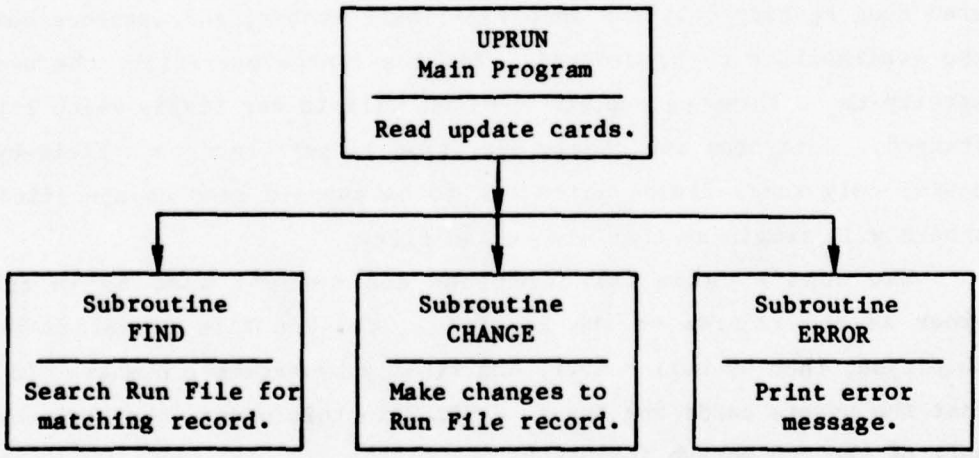

Figure 3 - Hierarchical Diagram of the UPRUN Program

RUN SET-UPS

The following set-ups are used in the updating process:

Part 1 - Update onto backup file.

```
//NVSUPRUN JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC SDA                                          (SORT UPDATE CARDS)
//SORTIN DD *
   ┌──────────────────┐
   │ UPRUN CARD INPUTS │
   └──────────────────┘
//SORTOUT DD DSN=&&CARDS,DISP=(,PASS),UNIT=SYSDA,
// SPACE=(800,100),DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
//SYSIN DD *    (SORT BY SHIP AND SEQUENCE NUMBER)
 SORT FIELDS=(1,4,A,6,4,A,33,4,A),FORMAT=CH

// EXEC PGM=UPRUN                                (EXECUTE PROGRAM UPRUN)
//GO.FT06F001 DD SYSOUT=A                  (LIST OF UPDATES PERFORMED)
//GO.FT04F001 DD DSN=&&CARDS,DISP=(OLD,DELETE)   (SORTED UPDATE CARDS)
//GO.FT01F001 DD DSN={LRPS RUN FILE},DISP=SHR             (INPUT FILE)
//GO.FT07F001 DD DSN={BACKUP RUN FILE},DISP=SHR          (OUTPUT FILE)
//GO.FT08F001 DD DSN=&&TEMP,DISP=(NEW,DELETE),UNIT=SYSDA,    (I/O FILE)
// SPACE=(840,100),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)
```

Part 2 - Sort the updated Run File and interchange the contents of the Run File and the backup file.

```
//NVSOKRUN JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.MISC.LIB,DISP=SHR

// EXEC PGM=IEBGENER                        (COPY RUN FILE TO TEMP. FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={RUN FILE},DISP=SHR
//SYSUT2 DD DSN=&&TEMP,DISP=(,PASS),UNIT=SYSDA,
// SPACE=(840,100),DCB=(LRECL=84,RECFM=FB,BLKSIZE=840)

// EXEC SDA                          (SORT BACKUP RUN FILE ONTO RUN FILE)
//SORTIN DD DSN={BACKUP RUN FILE},DISP=SHR
//SORTOUT DD DSN={RUN FILE},DISP=SHR
//SYSIN DD *    (SORT BY SECTOR, SHIP, AND SEQUENCE NUMBER)
 SORT FIELDS=(73,2,A,1,9,A,33,4,A),FORMAT=CH

// EXEC PGM=IEBGENER                (COPY TEMP. FILE TO BACKUP RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN=&&TEMP,DISP=(OLD,DELETE)
//SYSUT2 DD DSN={BACKUP RUN FILE},DISP=SHR

// EXEC PGM=IEBGENER                                    (PRINT RUN FILE)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN={RUN FILE},DISP=SHR
//SYSUT2 DD SYSOUT=A,DCB=BLKSIZE=134
```

INPUT/OUTPUT

The following units are used by the UPRUN program:

Unit 1 - input - LRPS Run File (for one sector)

Unit 4 - input - Card inputs giving updates to be performed

Unit 6 - output - Printout of updates performed

Unit 7 - output - Updated Run File (unsorted)

Unit 8 - I/O - Temporary file of new records.

An example of the unit 6 printout is given on page 92.

"UPRUN" CARD INPUT

(Unit 4)

Identification Card

CARD COLUMN	FORMAT	FIELD CONTENTS	
1		[Ship type field]	
4			
	"D"		
	"A"		
	"T"		
	"E"		
	":"		
10			
11	I2	Month	Run date
13	"/"		
	I2	Day	
16	"/"		
	I2	Year	
18			
	1X		
20	"F"		
	"I"		
	"L"		
	"E"		
24	":"		
25	I4	File number	
28			
29	A3	File version	
31			
32			
. . .	A18	File name	
49			

Update Cards. An update card is required for every record to be changed, deleted, or added to the Run File. The basic format of the update card is the same as that of the Run File record (with the record number omitted). A code has been added to indicate the type of update operation to be performed. If the update code is "C" (change) or blank, the existing Run File record with the ship type, hull number, and sequence number indicated on the update card is modified. In this case, only the records to be modified need be specified; all others will remain unchanged. If the update code is "D" (delete), the existing Run File record with the ship type, hull number, and sequence number indicated on the update card is deleted from the Run File.

Change and delete update cards must be in the same order as the records on the Run File*, since searching the Run File for a match begins with the next record on the Run File following the one specified by the last deletion or change operation.

If the update code is "A" (add), a new record is added to the Run File (and is placed at the end of the file). Add cards may appear at any point in the update deck. They need not be grouped together.

CARD COLUMN	FORMAT	FIELD CONTENTS
1	A4	Ship type
4		
	1X	Update code ("C" or blank, "D", or "A")
6	I4	Hull number
9		
	2X	
12	A5	Homeport
16		

*The Run File is sorted first by ship type, then by hull number, and finally by sequence number.

Update Cards (continued)

CARD COLUMN	FORMAT	FIELD CONTENTS
17 18	I2	Month of availability start date
	"/"	
20 21	I2	Day of availability start date
	"/"	
23 24	I2	Year of availability start date
25 26	I2	Month of availability end date
	"/"	
28 29	I2	Day of availability end date
	"/"	
31 32	I2	Year of availability end date
33 36	I4	Sequence number
37 38	I2	Priority
39 40	I2	Dock class
41	A1	Inact. marker
42 43	I2	Labor distribution histogram
44 48	A5	Overhaul yard
49 51	I3	Start restraint
52 54	I3	End restraint
55 58	I4	Dock time (days)
	1X	

Update Cards (continued)

CARD COLUMN	FORMAT	FIELD CONTENTS
60	I7	Mandays (production shop productive)
66		
67	A3	Type of work
69		
70	A3	Specialization category
72		
73	A1	Yard ownership ("N" or "P")
74	A1	Coast ("E" or "W")
75	I3	Percent alterations
77		
	2X	
80	I1	Type select

LRPS RUN FILE

(Unit 1 - "UPRUN" Input and Unit 7 - "UPRUN" Output)

Header Record (First record on the file)

RECORD POS.	FORMAT	FIELD CONTENTS	
1	A18	File name	
18			
19	I4	File number	
22			
23	A3	File version	
25			
26	I2	Month	File creation date
	I2	Day	
	I2	Year	
31			
32	41X		
72			
73	"A"	[Sector]	
74	"A"		
	5X		
80	"0"	[Type Select]	
81	"0"	Record number	
	"0"		
	"0"		
84	"0"		

Availability Records (One per availability)

RECORD POS.	FORMAT	FIELD CONTENTS	
1	A4	Ship type	
4			
	1X		
6	I4	Hull number	
9			
	2X		
12	A5	Homeport	
16			
17	I2	Month	Availability start date
19	"/"		
	I2	Day	
22	"/"		
	I2	Year	
24			
25	I2	Month	Availability end date
27	"/"		
	I2	Day	
30	"/"		
	I2	Year	
32			
33	I4	Sequence number	
36			
37	I2	Priority	
38			
39	I2	Dock class	
40			
41	A1	Inact. marker	

Availability Records (continued)

RECORD POS.	FORMAT	FIELD CONTENTS	
42 43	I2	Labor distribution histogram	
44 48	A5	Overhaul yard	
49 51	I3	Start restraint	
52 54	I3	End restraint	
55 58	I4	Dock time (days)	
	1X		
60 66	I7	Mandays (production shop productive)	
67 69	A3	Type of work	
70 72	A3	Specialization category	
73	A1	Yard ownership ("N" or "P")	Sector
74	A1	Coast ("E" or "W")	
75 77	I3	Percent alterations	
	2X		
80	I1	Type select	
81 84	I4	Record number	

Trailer Records (Two records which follow all the availability records)

RECORD POS.	FORMAT	FIELD CONTENTS
1	"E"	
	"N"	
3	"D"	
4	I1	Contains "1" (first trailer record) or "2"
5		
.		.
.	68X	.
.		.
72		
73	"Z"	[Yard ownership indicator]
74	A1	Contains "X" (first trailer record) or "Y"
	5X	
80	"9"	[Type select]
81		
	I4	Record number
84		

Final Record

RECORD POS.	FORMAT	FIELD CONTENTS
1	"L"	
	"A"	
	"S"	
4	"T"	
5		
.	.	.
.	32X .	.
.	.	.
36		
37		
38	"9"	[Priority]
39		
.	.	.
.	34X .	.
.	.	.
72		
73	"Z"	
74	"Z"	[Sector]
	5X	
80	"9"	[Type select]
	"9"	
	"9"	
	"9"	[Record number]
	"9"	
84	"9"	

LISTING OF PROGRAM

```
C*****PROGRAM UPRUN(INPUT,OUTPUT,TAPE4,      TAPE6=OUTPUT,TAPE1,TAPE7,  ****  10
C****.     TAPE8)                                                       ****  20
C                                                                       UPRU  30
C                                                                       UPRU  40
C UPRUN (UPDATE LRPS RUN FILE) IS CAPABLE OF PERFORMING THE FOLLOWING   UPRU  50
C OPERATIONS:                                                           UPRU  60
C                                                                       UPRU  70
C     - DELETE OR CHANGE PARTICULAR RUN FILE RECORDS.                   UPRU  80
C     - ADD NEW RECORDS TO THE RUN FILE.                                UPRU  90
C                                                                       UPRU 100
C THE FORMAT FOR THE REPLACEMENT CARDS AND NEW-RECORD CARDS IS THE      UPRU 110
C SAME AS THE RUN FILE RECORDS (WITH THE RECORD NUMBER OMITTED).        UPRU 120
C THE CHANGE AND DELETE OPERATIONS ARE PERFORMED FIRST BY MATCHING      UPRU 130
C THE SHIP TYPE, HULL NUMBER, AND SEQUENCE NUMBER INDICATED ON THE      UPRU 140
C UPDATE CARD WITH THE CORRESPONDING RECORD ON THE RUN FILE.  THESE     UPRU 150
C CARDS MUST BE IN THE SAME ORDER AS THE RECORDS ON THE RUN FILE        UPRU 160
C (NAMELY, SHIP TYPE, HULL NUMBER, AND SEQUENCE NUMBER).  ADDITION      UPRU 170
C UPDATE CARDS MAY BE PLACED ANYWHERE IN THE INPUT DECK.                UPRU 180
C                                                                       UPRU 190
C PRINTOUT OF THE PROGRAM CONSISTS OF A LIST OF ALL CHANGES,            UPRU 200
C DELETIONS, AND ADDITIONS AND A NOTATION OF ANY ERRORS ENCOUNTERED.    UPRU 210
C                                                                       UPRU 220
C THE FOLLOWING UNITS ARE USED BY THE PROGRAM:                          UPRU 230
C                                                                       UPRU 240
C     UNIT 1 - INPUT  - LRPS RUN FILE (SORTED) FOR ONE SECTOR           UPRU 250
C     UNIT 4 - INPUT  - CARD INPUTS (UPDATES TO BE PERFORMED)           UPRU 260
C     UNIT 6 - OUTPUT - PRINTOUT OF UPDATES PERFORMED                   UPRU 270
C     UNIT 7 - OUTPUT - UPDATED RUN FILE (UNSORTED)                     UPRU 280
C     UNIT 8 - I/O    - TEMPORARY FILE OF ADDED RECORDS.                UPRU 290
C                                                                       UPRU 300
C PROGRAMMED BY LINDA L. LAMATRICE, DTNSRDC, CODE 187 (JULY 1978).      UPRU 310
C                                                                       UPRU 320
C ---------------------------------------------------------------       UPRU 330
C                                                                       UPRU 340
      REAL*8        FILEID,FIELD,PROPT,DATA,UNDER                       **** 350
C                                                                       UPRU 360
      INTEGER HULLUP                                                    UPRU 370
C                                                                       UPRU 380
      DIMENSION UNDER(26),DATA(26),FIELD(26),PROPT(2,5),CARD(21),       UPRU 390
     .    FILEID(3),DATE(3),FILE(2)                                     UPRU 400
C                                                                       UPRU 410
      DATA BLANK/1H /,DEL,CHG,ADD/1HD,1HC,1HA/, AST/1H*/,               UPRU 420
     .    RBLANK/1H /, PROPT/7HDELETE ,7HRECORD:,8HCHANGE -,6H FROM:,   UPRU 430
     .    1H ,1H ,8H       -,6H-- TO:,8HADD RECO,3HRD:/, IEOF4/0/,      UPRU 440
     .    IADD/0/, FILE/3HOLD,3HNEW/                                    UPRU 450
C                                                                       UPRU 460
C ---------------------------------------------------------------       UPRU 470
C                                                                       UPRU 480
C                                                                       UPRU 490
C READ FILE IDENTIFICATION INFORMATION. ---------------------------     UPRU 500
C*****CALL ERRSET(NERR,99)                                              **** 510
      READ (1,100)  FILEID,FNUM,FVER,DATE                               UPRU 520
  100 FORMAT (3A6,A4,A3,3A2,41X,2HAA,5X,5H00000)                        UPRU 530
      WRITE (6,120)                                                     UPRU 540
  120 FORMAT (1H1)                                                      UPRU 550
      WRITE (6,130)  FILE(1),FNUM,FVER,FILEID,DATE                      UPRU 560
  130 FORMAT (5X,A3,11H RUN FILE: ,A4,A3,1X,3A6,1X,A2,2(1H/,A2)/        UPRU 570
     .    5X,12(1H-)/)                                                 UPRU 580
      READ (4,140)  DATE,FNUM,FVER,FILEID                               UPRU 590
  140 FORMAT (10X,3A3,5X,A4,A3,3A6)                                     UPRU 600
      WRITE (6,130)  FILE(2),FNUM,FVER,FILEID,DATE                      UPRU 610
```

```
      WRITE (6,330)                                                    UPRU 620
      WRITE (7,100)  FILEID,FNUM,FVER,DATE                             UPRU 640
      LINE=9                                                           UPRU 650
C                                                                      UPRU 660
C READ NEXT UPDATE CARD.  ------------------------------------------   UPRU 670
      IER=0                                                            UPRU 680
  150 DO 160 I=1,22                                                    UPRU 690
  160 UNDER(I)=RBLANK                                                  UPRU 700
  170 READ (4,180,END=350)  FIRST,(FIELD(I),I=1,25)                    **** 710
C*170 READ (4,180)          FIRST,(FIELD(I),I=1,25)                    **** 720
  180 FORMAT (A1,T1,A4,1X,A4,2X,A5,2(A2,1X),A2,2(A2,1X),A2,A4,2A2,     UPRU 730
     .    A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1)                     UPRU 740
C*****IF (EOF(4).NE.0.0)  GO TO 350                                    **** 750
      IF (FIRST.EQ.AST)  GO TO 170                                     UPRU 760
      BACKSPACE 4                                                      UPRU 770
      READ (4,190)  SHIPUP,OPER,HULLUP,ISEQUP                          UPRU 780
  190 FORMAT (A4,A1,I4,T33,I4)                                         UPRU 790
C                                                                      UPRU 800
C OPERATION IS DELETE.  --------------------------------------------   UPRU 810
      IF (OPER.NE.DEL)  GO TO 250                                      UPRU 820
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                         UPRU 830
      IF (IER.NE.0)  GO TO 410                                         UPRU 840
  200 LINE=LINE+1                                                      UPRU 850
      IF (LINE.LT.55)  GO TO 210                                       UPRU 860
      LINE=1                                                           UPRU 870
      WRITE (6,120)                                                    UPRU 880
  210 WRITE (6,220)  (PROPT(I,1),I=1,2),DATA                           UPRU 890
  220 FORMAT (5X,2A8,A4,1X,A4,2X,A5,2(A2,2(1H/,A2)),A4,2A2,A1,A2,A5,   UPRU 900
     .    2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4)                           UPRU 910
      WRITE (6,330)                                                    UPRU 920
      LINE=LINE+2                                                      UPRU 930
      GO TO 170                                                        UPRU 940
C                                                                      UPRU 950
C OPERATION IS CHANGE.  --------------------------------------------   UPRU 960
  250 IF (OPER.EQ.ADD) GO TO 300                                       UPRU 970
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                         UPRU 980
      IF (IER.NE.0)  GO TO 410                                         UPRU 990
      WRITE (6,330)                                                    UPRU1000
      IF (LINE.LT.53)  GO TO 270                                       UPRU1010
      LINE=5                                                           UPRU1020
      WRITE (6,120)                                                    UPRU1030
  270 WRITE (6,220)  (PROPT(I,2),I=1,2),DATA                           UPRU1040
      CALL CHANGE(0,DATA,FIELD,UNDER)                                  UPRU1050
      WRITE (6,275)  (PROPT(I,3),I=1,2),UNDER                          UPRU1060
  275 FORMAT(5X,2A8,A4,1X,A4,2X,A5,2(A2,1X),A2,2(A2,1X),A2,A4,2A2,     UPRU1070
     .    A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4)                   UPRU1080
      WRITE (6,220)  (PROPT(I,4),I=1,2),DATA                           UPRU1090
      WRITE (6,330)                                                    UPRU1100
      LINE=LINE+5                                                      UPRU1110
      GO TO 150                                                        UPRU1120
C                                                                      UPRU1130
C OPERATION IS ADD.  -----------------------------------------------   UPRU1140
  300 CALL CHANGE(1,DATA,FIELD,UNDER)                                  UPRU1150
      IADD=1                                                           UPRU1160
      IF (LINE.LT.58)  GO TO 320                                       UPRU1170
      LINE=0                                                           UPRU1180
      WRITE (6,120)                                                    UPRU1190
  320 WRITE (6,220)  (PROPT(I,5),I=1,2),DATA                           UPRU1200
      WRITE (6,330)                                                    UPRU1210
  330 FORMAT (1X)                                                      UPRU1220
      LINE=LINE+2                                                      UPRU1230
      GO TO 170                                                        UPRU1240
C                                                                      UPRU1250
```

```
      WRITE (6,330)                                                    UPRU 620
      WRITE (7,100)  FILEID,FNUM,FVER,DATE                             UPRU 640
      LINE=9                                                           UPRU 650
C                                                                      UPRU 660
C READ NEXT UPDATE CARD.  ------------------------------------------   UPRU 670
      IER=0                                                            UPRU 680
  150 DO 160 I=1,22                                                    UPRU 690
  160 UNDER(I)=RBLANK                                                  UPRU 700
  170 READ (4,180,END=350)  FIRST,(FIELD(I),I=1,25)                    **** 710
C*170 READ (4,180)          FIRST,(FIELD(I),I=1,25)                    **** 720
  180 FORMAT (A1,T1,A4,1X,A4,2X,A5,2(A2,1X),A2,2(A2,1X),A2,A4,2A2,     UPRU 730
     .     A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1)                     UPRU 740
C*****IF (EOF(4).NE.0.0)  GO TO 350                                    **** 750
      IF (FIRST.EQ.AST)  GO TO 170                                     UPRU 760
      BACKSPACE 4                                                      UPRU 770
      READ (4,190)  SHIPUP,OPER,HULLUP,ISEQUP                          UPRU 780
  190 FORMAT (A4,A1,I4,T33,I4)                                         UPRU 790
C                                                                      UPRU 800
C OPERATION IS DELETE.  --------------------------------------------   UPRU 810
      IF (OPER.NE.DEL)  GO TO 250                                      UPRU 820
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                         UPRU 830
      IF (IER.NE.0)  GO TO 410                                         UPRU 840
  200 LINE=LINE+1                                                      UPRU 850
      IF (LINE.LT.55)  GO TO 210                                       UPRU 860
      LINE=1                                                           UPRU 870
      WRITE (6,120)                                                    UPRU 880
  210 WRITE (6,220)  (PROPT(I,1),I=1,2),DATA                           UPRU 890
  220 FORMAT (5X,2A8,A4,1X,A4,2X,A5,2(A2,2(1H/,A2)),A4,2A2,A1,A2,A5,   UPRU 900
     .     2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4)                           UPRU 910
      WRITE (6,330)                                                    UPRU 920
      LINE=LINE+2                                                      UPRU 930
      GO TO 170                                                        UPRU 940
C                                                                      UPRU 950
C OPERATION IS CHANGE.  --------------------------------------------   UPRU 960
  250 IF (OPER.EQ.ADD) GO TO 300                                       UPRU 970
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                         UPRU 980
      IF (IER.NE.0)  GO TO 410                                         UPRU 990
      WRITE (6,330)                                                    UPRU1000
      IF (LINE.LT.53)  GO TO 270                                       UPRU1010
      LINE=5                                                           UPRU1020
      WRITE (6,120)                                                    UPRU1030
  270 WRITE (6,220)  (PROPT(I,2),I=1,2),DATA                           UPRU1040
      CALL CHANGE(0,DATA,FIELD,UNDER)                                  UPRU1050
      WRITE (6,275)  (PROPT(I,3),I=1,2),UNDER                          UPRU1060
  275 FORMAT(5X,2A8,A4,1X,A4,2X,A5,2(A2,1X),A2,2(A2,1X),A2,A4,2A2,     UPRU1070
     .     A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4)                  UPRU1080
      WRITE (6,220)  (PROPT(I,4),I=1,2),DATA                           UPRU1090
      WRITE (6,330)                                                    UPRU1100
      LINE=LINE+5                                                      UPRU1110
      GO TO 150                                                        UPRU1120
C                                                                      UPRU1130
C OPERATION IS ADD.  -----------------------------------------------   UPRU1140
  300 CALL CHANGE(1,DATA,FIELD,UNDER)                                  UPRU1150
      IADD=1                                                           UPRU1160
      IF (LINE.LT.58)  GO TO 320                                       UPRU1170
      LINE=0                                                           UPRU1180
      WRITE (6,120)                                                    UPRU1190
  320 WRITE (6,220)  (PROPT(I,5),I=1,2),DATA                           UPRU1200
      WRITE (6,330)                                                    UPRU1210
  330 FORMAT (1X)                                                      UPRU1220
      LINE=LINE+2                                                      UPRU1230
      GO TO 170                                                        UPRU1240
C                                                                      UPRU1250
```

```
C TRANSFER NEW RECORDS TO RUN FILE.  ----------------------------      UPRU1260
  350 IER=1                                                           UPRU1270
      CALL FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                        UPRU1280
      IF (IADD.EQ.0)  STOP                                            UPRU1290
      REWIND 8                                                        UPRU1300
  360 READ (8,370,END=420)  CARD                                      ****1310
C*360 READ (8,370)            CARD                                  ****1320
  370 FORMAT (21A4)                                                   UPRU1330
C*****IF (EOF(8).NE.0.0)  GO TO 420                                   ****1340
      WRITE (7,370)  CARD                                             UPRU1350
      GO TO 360                                                       UPRU1360
C                                                                     UPRU1370
C PROCESS ERRORS.  ---------------------------------------------      UPRU1380
  410 CALL ERROR(LINE,OPER,SHIPUP,HULLUP,ISEQUP)                      UPRU1390
  420 STOP                                                            UPRU1400
      END                                                             UPRU1410
```

```
      SUBROUTINE CHANGE (ICHG,DATA,FIELD,UNDER)                          CHAN  10
C                                                                        CHAN  20
C                                                                        CHAN  30
C SUBROUTINE CHANGE EXAMINES EACH DATA POINT OF THE DATA ARRAY AND THE   CHAN  40
C CORRESPONDING ELEMENT OF THE FIELD ARRAY TO DETERMINE WHETHER OR NOT   CHAN  50
C THE ELEMENT IS TO BE CHANGED.  IF THE FIELD ARRAY ELEMENT IS BLANK,    CHAN  60
C THE CORRESPONDING DATA ARRAY ELEMENT IS NOT CHANGED.  IF THE FIELD     CHAN  70
C ARRAY ELEMENT IS NOT BLANK, THE DATA ARRAY ELEMENT IS SET EQUAL        CHAN  80
C TO THE FIELD ARRAY ELEMENT.                                            CHAN  90
C                                                                        CHAN 100
C SUBROUTINE CHANGE IS ALSO USED (IF ICHG.NE.0) DURING THE ADD OPERA-    CHAN 110
C TION TO TRANSFER NEW-RECORD INFORMATION FROM THE FIELD ARRAY TO THE    CHAN 120
C DATA ARRAY.                                                            CHAN 130
C                                                                        CHAN 140
C THE FOLLOWING TABLE INDICATES THE SUBSCRIPTS OF THE DATA AND FIELD     CHAN 150
C ARRAYS FOR THE VARIOUS PARAMETERS.                                     CHAN 160
C                                                                        CHAN 170
C                                                                        CHAN 180
C                      FIELD & DATA                      FIELD & DATA    CHAN 190
C     PARAMETER           ARRAYS       PARAMETER          ARRAYS        CHAN 200
C     ---------          ------        ---------         ------         CHAN 210
C     SHIP TYPE             1          INACT. MARKER        13          CHAN 220
C     HULL NUMBER           2          LDH                  14          CHAN 230
C     HOMEPORT              3          SHIPYARD             15          CHAN 240
C     AVAIL. START DATE                START RESTRAINT      16          CHAN 250
C        MONTH              4          END RESTRAINT        17          CHAN 260
C        DAY                5          DOCK TIME            18          CHAN 270
C        YEAR               6          MANDAYS (TOTAL)      19          CHAN 280
C     AVAIL. END DATE                  TYPE OF WORK         20          CHAN 290
C        MONTH              7          SPECIALIZATION       21          CHAN 300
C        DAY                8          N/P                  22          CHAN 310
C        YEAR               9          COAST                23          CHAN 320
C     SEQUENCE NUMBER       10         PERCENT ALT.         24          CHAN 330
C     PRIORITY              11         TYPE SELECT          25          CHAN 340
C     DOCK CLASS            12         RECORD NUMBER        26          CHAN 350
C                                                                        CHAN 360
C                                                                        CHAN 370
C ---------------------------------------------------------------------  CHAN 380
C                                                                        CHAN 390
      REAL*8 DATA,FIELD,UNDER,RBLANK,HATS                                **** 400
C                                                                        CHAN 410
      DIMENSION DATA(26),FIELD(26),UNDER(26)                             CHAN 420
C                                                                        CHAN 430
C*****DATA RBLANK,HATS/1H ,8H^^^^^^^^/                                   **** 440
      DATA RBLANK,HATS/1H ,8H;;;;;;;;/                                   **** 450
C                                                                        CHAN 460
C ---------------------------------------------------------------------  CHAN 470
C                                                                        CHAN 480
      UNDER(26)=RBLANK                                                   CHAN 490
      FIELD(26)=RBLANK                                                   CHAN 500
      DO 110 I=1,25                                                      CHAN 510
      IF (ICHG.NE.0)  GO TO 100                                          CHAN 520
      UNDER(I)=RBLANK                                                    CHAN 530
      IF (FIELD(I).EQ.RBLANK)  GO TO 110                                 CHAN 540
      UNDER(I)=HATS                                                      CHAN 550
  100 DATA(I)=FIELD(I)                                                   CHAN 560
  110 CONTINUE                                                           CHAN 570
C                                                                        CHAN 580
      UNDER(1) =RBLANK                                                   CHAN 590
      UNDER(2) =RBLANK                                                   CHAN 600
      UNDER(10)=RBLANK                                                   CHAN 610
      J=7                                                                CHAN 620
      IF (ICHG.EQ.0)  GO TO 150                                          CHAN 630
```

```
      DATA(26)=RBLANK                                                    CHAN 640
      J=8                                                                CHAN 650
C                                                                        CHAN 660
C WRITE NEW RUN FILE RECORD.  ------------------------------------       CHAN 670
  150 WRITE (J,160)  DATA                                                CHAN 680
  160 FORMAT         (A4,1X,A4,2X,A5,2(A2,2(1H/,A2)),A4,2A2,A1,A2,A5,    CHAN 690
     .     2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4)                             CHAN 700
      RETURN                                                             CHAN 710
      END                                                                CHAN 720
```

```
      SUBROUTINE ERROR(LINE,OPER,SHIPUP,HULLUP,ISEQUP)                   ERRO  10
C                                                                        ERRO  20
C                                                                        ERRO  30
C SUBROUTINE ERROR IS CALLED WHEN THERE IS NO-MATCH ON THE CURRENT       ERRO  40
C AVAILABILITY.  ERROR PRINTS A MESSAGE DESCRIBING THE ERROR.            ERRO  50
C                                                                        ERRO  60
C                                                                        ERRO  70
      INTEGER HULLUP                                                     ERRO  80
C                                                                        ERRO  90
      DIMENSION DATA(20)                                                 ERRO 100
C                                                                        ERRO 110
      DATA AST/1H*/                                                      ERRO 120
C                                                                        ERRO 130
C ---------------------------------------------------------------------  ERRO 140
C                                                                        ERRO 150
      IF (LINE.LT.51)  GO TO 110                                         ERRO 160
      LINE=0                                                             ERRO 170
      WRITE (6,100)                                                      ERRO 180
  100 FORMAT (1H1)                                                       ERRO 190
  110 LINE=LINE+5                                                        ERRO 200
      WRITE (6,120)                                                      ERRO 210
  120 FORMAT (5X,92A1)                                                   ERRO 220
      WRITE (6,120)  (AST,I=1,92),AST                                    ERRO 230
      WRITE (6,140)  OPER,SHIPUP,HULLUP,ISEQUP                           ERRO 240
  140 FORMAT (5X,40H*  NO-MATCH ON RUN FILE FOR AVAILABILITY,            ERRO 250
     .     33H INDICATED BY THIS UPDATE CARD:  ,A1,3H - ,A4,2I4/5X,1H*/  ERRO 260
     .     5X,46H*  REMAINING UPDATE CARDS CANNOT BE PROCESSED:/5X,1H*)  ERRO 270
  150 READ (4,155,END=190)  DATA                                         **** 280
C*150 READ (4,155)           DATA                                        **** 290
  155 FORMAT (20A4)                                                      ERRO 300
C*****IF (EOF(4).NE.0.0)  GO TO 190                                      **** 310
  160 IF (LINE.LT.58)  GO TO 165                                         ERRO 320
      WRITE (6,100)                                                      ERRO 330
      LINE=0                                                             ERRO 340
  165 WRITE (6,170)  DATA                                                ERRO 350
  170 FORMAT (5X,1H*,5X,20A4)                                            ERRO 360
      LINE=LINE+1                                                        ERRO 370
      GO TO 150                                                          ERRO 380
C                                                                        ERRO 390
  190 WRITE (6,120)  (AST,I=1,92)                                        ERRO 400
      WRITE (6,200)                                                      ERRO 410
  200 FORMAT (1H0)                                                       ERRO 420
      LINE=LINE+3                                                        ERRO 430
      RETURN                                                             ERRO 440
      END                                                                ERRO 450
```

```
      SUBROUTINE FIND(SHIPUP,HULLUP,ISEQUP,IER,DATA)                    FIND  10
C                                                                       FIND  20
C                                                                       FIND  30
C SUBROUTINE FIND READS RECORDS FROM UNIT 1 AND COPIES THEM ONTO UNIT 7 FIND  40
C UNTIL A MATCH IS MADE ON SHIP TYPE (SHIPUP), HULL NUMBER (HULLUP), ANDFIND  50
C SEQUENCE NUMBER (ISEQUP).  THE DATA FROM THE MATCHING RECORD IS       FIND  60
C RETURNED THROUGH THE DATA ARRAY.                                      FIND  70
C                                                                       FIND  80
C IF AN END-OF-FILE IS ENCOUNTERED ON UNIT 7 BEFORE A MATCH IS FOUND,   FIND 100
C IER IS SET TO 1.                                                      FIND 110
C                                                                       FIND 120
C                                                                       FIND 130
      REAL*8 DATA                                                       **** 140
C                                                                       FIND 150
      INTEGER HULLUP                                                    FIND 160
C                                                                       FIND 170
      DIMENSION DATA(26)                                                FIND 180
C                                                                       FIND 190
C -------------------------------------------------------------------   FIND 200
C                                                                       FIND 210
  100 READ (1,110,END=150)  DATA,SHIP,IHULL,ISEQ                        **** 220
C*100 READ (1,110)          DATA,SHIP,IHULL,ISEQ                        **** 230
  110 FORMAT         (A4,1X,A4,2X,A5,2(A2,2(1H/,A2)),A4,2A2,            FIND 240
     .     A1,A2,A5,2A3,A4,1X,A7,2A3,2A1,A3,2X,A1,A4,                   FIND 250
     .     T1,A4,1X,I4,23X,I4)                                          FIND 260
C*****IF (EOF(1).NE.0.0)  GO TO 150                                     **** 270
      IF (IER.EQ.1)  GO TO 120                                          FIND 280
      IF (SHIP.EQ.SHIPUP .AND. IHULL.EQ.HULLUP .AND. ISEQ.EQ.ISEQUP)    FIND 290
     .    RETURN                                                       FIND 300
  120 WRITE (7,110)  DATA                                               FIND 310
      GO TO 100                                                         FIND 320
C                                                                       FIND 330
  150 IER=1                                                             FIND 340
      RETURN                                                            FIND 350
      END                                                               FIND 360
```

SAMPLE RUN

The sample run of the UPRUN program uses, as its input file, the sorted NE Run File produced by the LRPSCF program. A listing of this file is given on page 36. This section provides listings of all other input/output units used in the sample run of UPRUN.

Card Input (unsorted)

```
    DATE:  7/27/78 FILE:  0102 LRPS RUN FILE
*-------------------------------------NORVA-----------------------------------------
CGN A  37  NORVA10/01/7912/01/79   5 1 0  1NORVA  0  0   0   12000RA AANNE 12  1
CGN D  39                          3
CGN D  40                          3
CGN D  41                          3
CV  C  62       10       12       41
*-------------------------------------SNEWS-----------------------------------------
CGN C  40  NORVA                   2                              5000
CGN A  39  NORVA09/01/8211/01/83  10 1 0 13NORVA  3275  80  275000RO AANNE 22  1
CGN    41  NORVA                   2
```

Unit 4 - Card Input (sorted)

```
    DATE:  7/27/78 FILE:  0102 LRPS RUN FILE
*-------------------------------------NORVA-----------------------------------------
*-------------------------------------SNEWS-----------------------------------------
CGN A  37  NORVA10/01/7912/01/79   5 1 0  1NORVA  0  0   0   12000RA AANNE 12  1
CGN D  39                          3
CGN A  39  NORVA09/01/8211/01/83  10 1 0 13NORVA  3275  80  275000RO AANNE 22  1
CGN C  40  NORVA                   2                              5000
CGN D  40                          3
CGN    41  NORVA                   2
CGN D  41                          3
CV  C  62       10       12       41
```

Unit 6 - Printed Output

```
OLD RUN FILE:    0101  LRPS RUN FILE       07/22/78
-------------

NEW RUN FILE:    0102  LRPS RUN FILE        7/27/78
-------------

ADD RECORD:        CGN    37  NORVA10/01/7912/01/79   5 1 0  1NORVA   0  0   0    12000RA AANNE 12  1

DELETE  RECORD:    CGN    39  NORVA 6/26/7810/25/78   3 1 0  1NORVA   3 85  15    35000PS AANNE  0  1

ADD RECORD:        CGN    39  NORVA09/01/8211/01/83  10 1 0 13NORVA   3275  80   275000RO AANNE 22  1

CHANGE - FROM:     CGN    40  D 05 11/ 6/78 1/ 5/79   2 1 0  1SNEWS   3 33  20     6000FO AANNE  0  1
       --- TO:     CGN    40  NORVA11/ 6/78 1/ 5/79   2 1 0  1SNEWS   3 33  20     5000FO AANNE  0  1

DELETE  RECORD:    CGN    40  NORVA 7/16/7911/16/79   3 1 0  1NORVA   3 86  15    45000PS AANNE  0  1

CHANGE - FROM:     CGN    41  D 05  3/17/80 5/16/80   2 1 0  1SNEWS   3 29  20     5000FO AANNE  0  1
       --- TO:     CGN    41  NORVA 3/17/80 5/16/80   2 1 0  1SNEWS   3 29  20     5000FO AANNE  0  1

DELETE  RECORD:    CGN    41  NORVA12/15/80 3/20/81   3 1 0  1NORVA   3 69  15    45000PS AANNE  0  1

CHANGE - FROM:     CV     62  NORVA 9/ 1/7911/26/79  41 1 0 17NORVA   0  0   0    69170RA CVANE 42  1
       --- TO:     CV     62  NORVA10/ 1/7912/26/79  41 1 0 17NORVA   0  0   0    69170RA CVANE 42  1
```

Unit 7 (output) - Updated LRPS Run File, NE (unsorted)

```
LRPS RUN FILE        0102  72778                                                    AA       00000
CGN    37  NORVA 1/ 2/81 3/ 5/82  10 1 0 13NORVA   3279   80   278000RO AANNE 14   1
CGN    38  NORVA 8/ 3/7910/ 2/79   4 1 0  1NORVA   0  0    0    12000RA AANNE 32   1
CGN    38  NORVA 7/ 1/82 9/ 2/83  10 1 0 13NORVA   3278   80   278000RO AANNE  9   1
CGN    40  NORVA11/ 6/78 1/ 5/79   2 1 0  1SNEWS   3 33   20     5000FD AANNE  0   1
CGN    40  CHASN 5/ 1/82 7/ 1/82   4 1 0  1CHASN   0  0    0    12000RA AANNE100   1
CGN    41  NORVA 3/17/80 5/16/80   2 1 0  1SNEWS   3 29   20     5000FD AANNE  0   1
CV     59  NORVA 5/ 3/80 7/29/80  42 1 0 17NORVA   0  0    0    60000RA CVANE 43   1
CV     59  NORVA10/ 1/81 1/ 1/82  43 1 0 17NORVA   0  0    0    60000RA CVANE 44   1
CV     60  MAYPT 4/20/7912/ 1/79  60 1 0 23NORVA   3100   80   240000RO CVANE 47   1
CV     62  NORVA11/21/7710/19/78  40 1 0 23NORVA   3178  100   346352RO CVANE 41   1
CV     62  NORVA10/ 1/7912/26/79  41 1 0 17NORVA   0  0    0    69170RA CVANE 42   1
END1                                                                          ZX       9
END2                                                                          ZY       9
LAST                                    9                                     ZZ       99999
CGN    37  NORVA10/01/7912/01/79   5 1 0  1NORVA   0  0    0    12000RA AANNE 12   1
CGN    39  NORVA09/01/8211/01/83  10 1 0 13NORVA   3275   80   275000RO AANNE 22   1
```

Unit 8 (input/output) - Temporary File of New Records

```
CGN    37  NORVA10/01/7912/01/79   5 1 0  1NORVA   0  0    0    12000RA AANNE 12   1
CGN    39  NORVA09/01/8211/01/83  10 1 0 13NORVA   3275   80   275000RO AANNE 22   1
```

Sorted LRPS Run File, NE

```
LRPS RUN FILE        0102  72778                                                    AA       00000
CGN    37  NORVA10/01/7912/01/79   5 1 0  1NORVA   0  0    0    12000RA AANNE 12   1
CGN    37  NORVA 1/ 2/81 3/ 5/82  10 1 0 13NORVA   3279   80   278000RO AANNE 14   1
CGN    38  NORVA 8/ 3/7910/ 2/79   4 1 0  1NORVA   0  0    0    12000RA AANNE 32   1
CGN    38  NORVA 7/ 1/82 9/ 2/83  10 1 0 13NORVA   3278   80   278000RO AANNE  9   1
CGN    39  NORVA09/01/8211/01/83  10 1 0 13NORVA   3275   80   275000RO AANNE 22   1
CGN    40  NORVA11/ 6/78 1/ 5/79   2 1 0  1SNEWS   3 33   20     5000FD AANNE  0   1
CGN    40  CHASN 5/ 1/82 7/ 1/82   4 1 0  1CHASN   0  0    0    12000RA AANNE100   1
CGN    41  NORVA 3/17/80 5/16/80   2 1 0  1SNEWS   3 29   20     5000FD AANNE  0   1
CV     59  NORVA 5/ 3/80 7/29/80  42 1 0 17NORVA   0  0    0    60000RA CVANE 43   1
CV     59  NORVA10/ 1/81 1/ 1/82  43 1 0 17NORVA   0  0    0    60000RA CVANE 44   1
CV     60  MAYPT 4/20/7912/ 1/79  60 1 0 23NORVA   3100   80   240000RO CVANE 47   1
CV     62  NORVA11/21/7710/19/78  40 1 0 23NORVA   3178  100   346352RO CVANE 41   1
CV     62  NORVA10/ 1/7912/26/79  41 1 0 17NORVA   0  0    0    69170RA CVANE 42   1
END1                                                                          ZX       9
END2                                                                          ZY       9
LAST                                    9                                     ZZ       99999
```

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