

Release 3.7

DCD III

Computer Aided Software Engineering

(CASE) Files

Use for CASE Files

These files were made available with the new DCD III system for two reasons. The first reason is in response to our existing users of our older DCD II system. The second reason is in response to the general direction that the industry is going with respect to re-engineering of COBOL programs.

These files are for the most part not intended to be an end result of re-engineering. Instead, these files are designed to facilitate the users in getting to the end result chosen for their particular company. The CASE files provide a very complete and accurate set of files. They cross reference both the DATA and the PROCEDURE divisions of one or more COBOL programs.

At **MARBLE Computer Inc.**, the observation obtained from people who use our software is that no two users follow the exact same course in re-engineering. The usage varies greatly; it is dependent upon the needs of each particular company.

DCD III

Computer Aided Software Engineering (CASE) Files

TABLE OF CONTENTS

Use of This Section.....	C-4
List of Exhibits.....	C-4
Rules and Restrictions When Producing CASE Files	C-5
Sample JCL to Access and Print CASE Files.....	C-6
Data Division Only Files	
Data Division Information File	C-7
Data Analysis Information File	C-11
Procedure Division Only Files	
Procedure Division Information File.....	C-15
Basic Paragraph Information File.....	C-23
Paragraph Range Information File	C-27
Transfer of Control Narrative File.....	C-30
Procedure Division to Data Division Cross Reference Files	
Procedure Division Reference to the Data Division	C-33
Procedure Division Narrative for Each Data Field	C-36
Expanded Procedure Division Narrative	C-38
Data Dictionary Interface File	C-41
PICTURE and Literal File	C-45

Use of This Section

This section is provided to make the user aware of the work files that are available. They may be used for in-house projects which deal in the re-engineering of COBOL software.

Within this section, the information provided in these files is shown in two formats:

1. A listing of a COBOL COPY record which was used internally within DCD III to create this file.
2. A description of the fields within that record

The COBOL COPY records that were used internally to build these files are made available with this software package. All eleven COPY members are contained within the COPY member CASEMBRS on the second file of the installation tape. See Installation Guide sub-heading, “**DCD III JCL Procedure Library**”.

List of Exhibits

1.	COPY Member for the Data Division Information File	C-8
2.	COPY Member for the Data Analysis Information File	C-12
3.	COPY Member for the Procedure Division Information File.....	C-16
4.	COPY Member for the Basic Paragraph Information File	C-24
5.	COPY Member for the Paragraph Range Information File	C-28
6.	COPY Member for the Transfer of Control Narrative File	C-31
7.	COPY Member for Procedure Division References to the Data Division.....	C-34
8.	COPY Member for Procedure Division Narrative for Each Data Field	C-37
9.	COPY Member for the Expanded Procedure Division Narrative.....	C-39
10.	COPY Member for the Data Dictionary Interface File.....	C-42
11.	COPY Member for the PICTURE and Literal File.....	C-46

Rules and Restrictions When Producing CASE Files

These work files are available by using DCD III following the instructions given in one of two earlier sections and by following the additional instructions given here. The earlier sections are:

1. Alternate Compile Listing Facility
2. Other COBOL Reports Facility

When creating these files, a DCD III report or reports must be run from one of the two previously mentioned sections using the instructions given there. Additionally, other instructions and certain restrictions are listed in this section.

If the report generated is not wanted and the file generated is from the Other COBOL Reports Facility Section, then the REPORTS DD may be dummied out. The PRINT DD should never be dummied out as errors that occur during running are listed there.

The following are restrictions that must be followed when creating these records:

1. Only one program at a time may be run when producing the CASE files. (An exception to this is the Data Dictionary Interface File).
2. When accessing a particular file and the instructions indicate that a certain report option needs to be turned on, other report options should not be turned on unless indicated. In most cases, turning on another report option will cause the file wanted by the user to be destroyed before the user can access the file.
3. Do not pre-catalog, change the LRECL or modify the DISP for the work file which contains the information desired. The work files in DCD III are used multiple times within one DCD III run with varying record sizes. When the DCD III step is finished, the user may copy the file to another file using the LRECL and BLKSIZE specified individually for that file within this section.
4. When using the file created, the first record in each file must be bypassed if characters 1 through 6 in that record contain the constant MARBLE. These records are control records which contain date and time information and LRECL of the file.

More specific instructions are given with each available work file.

Note: The Data Dictionary Interface File mentioned in the Table of Contents does not specifically follow rules given here. Instead, it is more fully documented in the Other COBOL Reports Facility Section in this manual.

Sample JCL to Access and Print CASE Files

The following JCL is provided as an example of how to access the CASE files shown in this section.

The sample provided here traps the Data Analysis Information File and prints it out in a following IEBGENER step. To catalog a CASE file or otherwise save the information, provide other JCL in the SYSUT2 DD of the IEBGENER step.

```
//STEP1 EXEC   DCDCOBOL,DATA=
//DCD.DCDWK03 DD  DSN=&&TEMP03,DISP=(,PASS),DCB=(LRECL=0,RECFM=U)
//DCD.COBLIN  DD  DSN=USER.COBL.PDS (USERPROG) ,DISP=SHR
//DCD.COPYLIB DD  DSN=USER.COPY.LIB,DISP=SHR
//*
//STEP2 EXEC   PGM=IEBGENER,REGION=256K
//SYSIN       DD  DUMMY
//SYSPRINT    DD  SYSOUT=*
//SYSUT1      DD  DSN=&&TEMP03,DISP=(OLD,DELETE) ,
//              DCB=(RECFM=FB,LRECL=130,BLKSIZE=3120)
//SYSUT2      DD  SYSOUT=*, DCB=(RECFM=FB,LRECL=130,BLKSIZE=3120)
```

Note - As of release 3.2, a full DCB is required on both SYSUT1 and SYSUT2 when accessing CASE files AND a DCB as shown above on the //DCD.DCDWKnn file must be present [DCB=(LRECL=0,RECFM=U)].

Data Division Information File

This file contains a description of the Data Division attributes for each field in the Data Division.

To produce the file:

1. Use one of the PROCs in the Other COBOL Reports Facility Section of this manual, (e.g. PROC DCDCOBOL).
2. Use the PROC Symbolic DATA= on the EXEC DCDCOBOL (or other PROC name) line to turn on the DATA PARM option.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK01.
2. The LRECL of the file is 104.

The following pages show the internally used Data Division COPY member that was used to create the file and a description on the related fields within the record.

```

**
01 CIE-1-DATA-DIVISION-INFO.          COPY      INFOTYP1      (IN1)
05 CIE-1-SOURCE-LINE-NUMBER          PIC 9(5) .
05 CIE-1-EXPANDED-LINE-NUMBER        PIC 9(5) .
05 CIE-1-TYPE-FLAG                   PIC X.
88 CIE-1-TYPE-NORMAL                  VALUE SPACE.
88 CIE-1-TYPE-FILE-NAME              VALUE 'F' .
88 CIE-1-TYPE-REC-CONTAINS           VALUE 'R' .
88 CIE-1-TYPE-BLK-CONTAINS           VALUE 'B' .
88 CIE-1-TYPE-LABEL-RECORDS         VALUE 'L' .
88 CIE-1-TYPE-RECORDING-MODE        VALUE 'M' .
88 CIE-1-TYPE-VALID                  VALUES ARE ' '
                                         'F'
                                         'R'
                                         'L'
                                         'M'
                                         'B'.

05 CIE-1-LEVEL-NUMBER                PIC 99.
05 CIE-1-DATA-NAME                   PIC X(30) .
05 CIE-1-START-ADDRESS               PIC 9(9) .
05 CIE-1-END-ADDRESS                 PIC 9(9) .
05 CIE-1-OCCURS-FACTOR               PIC 9(9) .
05 CIE-1-REDEFINES-SRC-LINE         PIC 9(9) .
05 CIE-1-REDEFINES-EXP-LINE         PIC 9(5) .
05 CIE-1-ITEM-TYPE                   PIC X.
88 CIE-1-ITEM-GROUP                  VALUE 'G' .
05 CIE-1-SECTION-IND                 PIC X.
88 CIE-1-SECTION-FILE                VALUE 'F' .
88 CIE-1-SECTION-WS                  VALUE 'W' .
88 CIE-1-SECTION-LINKAGE             VALUE 'L' .
88 CIE-1-SECTION-REPORT              VALUE 'R' .
88 CIE-SECTION-COMM                  VALUE 'C' .
05 CIE-1-TYPE-USAGE                   PIC XX.
88 CIE-1-TYPE-COMP                   VALUE 'C' .
88 CIE-1-TYPE-COMP-1                 VALUE 'C1' .
88 CIE-1-TYPE-COMP-2                 VALUE 'C2' .
88 CIE-1-TYPE-COMP-3                 VALUE 'C3' .
88 CIE-1-TYPE-COMP-4                 VALUE 'C4' .
88 CIE-1-TYPE-DEFAULT-DISPLAY       VALUE ' ' .
88 CIE-1-TYPE-DISPLAY                VALUE 'D' .
88 CIE-1-TYPE-DISPLAY-1              VALUE 'D1' .
88 CIE-1-TYPE-INDEX                  VALUE 'IX' .
88 CIE-1-TYPE-USAGE-IS-INDEX         VALUE 'UI' .
88 CIE-1-TYPE-POINTER                VALUE 'PR' .
05 CIE-1-CLASS                        PIC X.
88 CIE-1-CLASS-ALPHA                 VALUE 'X' .
88 CIE-1-CLASS-EDITED                VALUE 'E' .
88 CIE-1-CLASS-NUMERIC                VALUE 'N' .
05 CIE-1-INTEGGER-DIGITS              PIC 99.
05 CIE-1-FRACTION-DIGITS              PIC 99.
05 CIE-1-ALT-OCCURS-NBR-GROUP-6.
10 CIE-1-USE-COMP-FIELD-SW           PIC X (01).
88 CIE-1-USE-COMP-FIELD               VALUE 'Y' .
10 CIE-1-OCCURS-NBR-TIMES            PIC 9(05).

** NEXT 4 LINES REDEFINE                *****ABOVE 5 BYTES. *****
10 CIE-1-OCCURS-NBR-GROUP-5           REDEFINES
                                         CIE-1-OCCURS-NBR-TIMES.
15 CIE-1-COMP-UNUSED-BYTE             PIC X(10).
15 CIE-1-OCCURS-NBR-TIMES-COMP        COMP    PIC 9(09).

```

Exhibit 1

COPY Member for the Data Division Information File

Description of Individual Fields

1.	CIE-1-SOURCE-LINE-NUMBER	Do not use.
2.	CIE-1-EXPANDED-LINE-NUMBER	The expanded sequence number (after COPY members have been resolved and brought into the program) where this data field is defined in the program.
3.	CIE-1-TYPE-FLAG	An indicator which has a value of SPACE for most records and a non-space value for records containing FD information.
4.	CIE-LEVEL-NUMBER	Level number associated with the data field in this record.
5.	CIE-DATA-NAME	Data name.
6.	CIE-1-START-ADDRESS	Beginning position relative to 1 for this record where this field starts within the 01 record.
7.	CIE-1-END-ADDRESS	Ending position of this field within the record.
8.	CIE-1-OCCURS-FACTOR	How many times this field OCCURS (dictated by 1 or more OCCURS).
9.	CIE-1-REDEFINES-SRC-LINE	Do not use.
10.	CIE-1-REDEFINES-EXP-LINE	For fields containing the REDEFINES clause, this field contains the expanded sequence number of the field being redefined.
11.	CIE-1-ITEM-TYPE	Contains a 'G' for group fields.
12.	CIE-1-SECTION-IND	Contains one letter indicating the section where this record or data name is in the Data Division.
13.	CIE-1-TYPE-USAGE	Two characters which indicate USAGE.
14.	CIE-1-CLASS	Contains one character which helps to define numeric or numeric edited fields.
15.	CIE-1-INTEGGER-DIGITS	For numeric fields, the number of whole digits to the left of the decimal.
16.	CIE-1-FRACTION-DIGITS	For numeric fields, the number of decimal digits to the right of the decimal.
17.	CIE-1-ALT-OCCURS-NBR-GROUP-6	Do not use.
18.	CIE-1-USE-COMP-FIELD-SW	Contains a 'Y' if CIE-1-OCCURS-NBR-TIMES-COMP should be used in place of CIE-1-OCCURS-NBR-TIMES.

19. CIE-1-OCCURS-NBR-TIMES The number of OCCURS as indicated within the OCCURS clause.

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Data Analysis Information File

This file is similar to the Data Division Information File and has the PICTURE and VALUE clauses as additional fields.

To produce the file:

1. Use one of the PROCs in the Other COBOL Reports Facility section of this manual (e.g. PROC DCDCOBOL).
2. Use the PROC Symbolic DATA= on the EXEC DCDCOBOL (or other PROC name) line to turn on the DATA PARM option.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK03.
2. The LRECL of the file is 130.

The following pages show the internally used Data Division COPY member that was used to create the file and a description of the related fields within the record.

```

**                                COPY                                NRRECORD.
01 NR-1-DATA-DIVISION-INFO.
05 NR-DATA-NAME                                PIC X(30).
05 NR-PROGRAM-NAME                            PIC X(08).
05 NR-CMPLR-NBR                               PIC 9(05).
05 NR-SEQ-NBR                                 PIC 9(04).
88 NR-DATA-DIV-REC                            VALUE 0000.
05 NR-NARRATIVE.
10 NR-PICTURE-CLAUSE.
15 NR-PICTURE-POS1                            PIC X(01).
15 FILLER                                     PIC X(20).
10 NR-VALUE-LITERAL.
15 NR-OCCURS-NBR                              PIC 9(08).
15 NR-OCCURS-FACTOR                          PIC 9(08).
15 NR-OCCURS-ALT-END                         PIC 9(08).
15 NR-VALUE-LAST-6                           PIC X(06).
10 NR-LEVEL-NBR                              PIC X(02).
10 NR-LEVEL-NBR-N    REDEFINES NR-LEVEL-NBR  PIC 9(02).
10 NR-FROM-NBR                               PIC 9(06).
10 NR-TO-NBR                                 PIC 9(06).
10 NR-GROUP-FLAG                             PIC X(01).
88 NR-GROUP                                  VALUE 'G'.
10 NR-SECTION-IND                            PIC X(01).
88 NR-SECTION-FILE                          VALUE 'F'.
88 NR-SECTION-W-S                            VALUE 'W'.
88 NR-SECTION-LINKAGE                       VALUE 'L'.
88 NR-SECTION-REPORT                        VALUE 'R'.
88 NR-SECTION-COMM                          VALUE 'C'.
10 NR-USAGE-IND                              PIC X(02).
88 NR-USAGE-COMP                            VALUE 'C'.
88 NR-USAGE-COMP-3                          VALUE 'C3'.
88 NR-USAGE-COMP-4                          VALUE 'C4'.
88 NR-USAGE-DEFAULT-DISPLAY                 VALUE ' '.
88 NR-USAGE-DISPLAY                         VALUE 'D'.
88 NR-USAGE-DISPLAY-1                       VALUE 'D1'.
88 NR-USAGE-INDEX                           VALUE 'IX'.
10 NR-REDEFINES-CMPLR                        PIC 9(05).
10 NR-TYPE-FLAG                             PIC X(01).
88 NR-TYPE-NORMAL                           VALUE ' '.
88 NR-TYPE-FILE-NAME                        VALUE 'F'.
88 NR-TYPE-RECORD-CONTAINS                  VALUE 'R'.
88 NR-TYPE-BLOCK-CONTAINS                   VALUE 'B'.
88 NR-TYPE-LABEL-RECORDS                    VALUE 'L'.
88 NR-TYPE-RECORDS-MODE                     VALUE 'M'.
88 NR-TYPE-SPECIAL-NAMES                    VALUE 'S'.
88 NR-TYPE-88-THROUGH                       VALUE 'T'.
10 NR-CLASS                                  PIC X(01).
88 NR-CLASS-ALPHA                           VALUE 'X'.
88 NR-CLASS-EDITED                          VALUE 'E'.
88 NR-TYPE-NUMERIC                          VALUE 'N'.
10 NR-WHOLE-DIGITS                           PIC 9(02).
10 NR-FRACTION-DIGITS                        PIC 9(02).
10 NR-OCCURS-NBR-PRESENT-SW                 PIC X(01).
88 NR-OCCURS-NBR-PRESENT                    VALUE 'Y'.
10 NR-SELECT-BY-CTL-CDS-SW                  PIC X(01).
88 NR-SELECT-BY-CTL-CDS                     VALUE 'Y'.
10 NR-VALUE-ALL-SW                           PIC X(01).
88 NR-VALUE-ALL                             VALUE 'Y'.

```

Exhibit 2

COPY Member for the Data Analysis Information File

Description of Individual Fields

The fields in this record are used to print the first line for each Data Division field in the System Data Name Cross -Reference. See the report for the example of these fields.

Most of the fields here are described under the heading, “Data Division Information File” NR-FROM-NBR and NR-TO-NBR correspond to CIE-START-ADDRESS and CIE-1-END-ADDRESS respectively. Refer to that heading for a description of most fields.

The following fields are new to this record:

The field NR-PICTURE-CLAUSE contains the first 21 characters [e.g. X(15), 9(02), ZZ,ZZ9] coded within the PICTURE clause.

The field NR-VALUE-LITERAL contains the first 30 characters of literals coded within the VALUE clause. This field also contains numbers indicating the number of OCCURS for fields with no VALUE that are within an OCCURS clause.

The field NR-SELECT-BY-CTL-CDS indicates the use of the DAS option which limits the DATA Analysis Reports to just those records selected by the SRA control cards.

The field NR-VALUE-ALL indicates the presence of the word ALL prior to the VALUE literal.

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Procedure Division Information File

This file has one or more records for each Procedure Division statement and contains information relevant to those statements.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility section of this manual (e.g. PROC DCDACL).
2. Use SOURCE=NO as a PROC Symbolic on the EXEC DCDACL (or other PROC name) line to turn off the SOURCE PARM option.
3. All other report options must be on. This is normally the default.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK05.
2. The LRECL of the file is 120.

The following pages show the internally used Data Division COPY member that was used to create the file and a description of the related fields within the record.

```

**          COPY  INFOTYP6          (IN6)
01 CIE-6-PROCEDURE-DIV-INFO.
   05 CIE-6-TYPE-RECORD          PIC 9.
      88 CIE-6-TYPE-NORMAL          VALUE 0.
      88 CIE-6-TYPE-QUAL-1          VALUE 1.
      88 CIE-6-TYPE-QUAL-2          VALUE 2.
      88 CIE-6-TYPE-ASSOC-NAME-QUALS VALUE 7.
      88 CIE-6-TYPE-SUBSCRIPT-QUALS VALUE 8.
      88 CIE-6-TYPE-SUBSCRIPT-INDEX VALUE 9.

   05 CIE-6-QUAL-NUMBER          PIC 99.
      88 CIE-6-VALID-VALUES          VALUES ARE 00
                                      THRU 50.

   05 CIE-6-PROC-SOURCE-LINE-NUMBER PIC 9(5).
   05 CIE-6-PROC-EXP-LINE-NUMBER PIC 9(5).

   05 CIE-6-DATA-1-NAME          PIC X(30).
   05 CIE-6-DATA-2-NAME          PIC X(30).

   05 CIE-6-NON-CICS-FORMAT-1.
      10 CIE-6-REFERS-DATA-NAME-1-OR-2 PIC X.
      10 CIE-6-PROC-LTRL-LINE-NUMBER PIC 9(5).
      10 CIE-6-PROC-LTRL-COLUMN-NUMBER PIC 9(5).
   05 CIE-6-CICS-FORMAT-1 REDEFINES CIE-6-NON-CICS-FORMAT-1.
      10 CIE-6-IND-CICS-OR-DL1 PIC X.
         88 CIE-6-IND-FOR-CICS          VALUE 'C'.
         88 CIE-6-IND-FOR-DL1          VALUE 'D'.
         88 CIE-6-IND-FOR-SQL          VALUE 'S'.
      10 CIE-6-CICS-VERB          PIC X(10).

   05 CIE-6-VERB-CODE          PIC 999.
   05 CIE-6-TYPE-ACTIVITY          PIC X.
      88 CIE-6-MODIFIED          VALUE 'M'.
      88 CIE-6-USED          VALUE 'U'.
      88 CIE-6-COMPARED          VALUE 'C'.
      88 CIE-6-SUBSCRIPT          VALUE 'S'.
      88 CIE-6-INDEX          VALUE 'I'.

   05 CIE-6-COMPARE-OPERATOR          PIC X.
      88 CIE-6-OPER-EQUAL TO          VALUE '='.
      88 CIE-6-OPER-GREATER-THAN          VALUE '>'.
      88 CIE-6-OPER-LESS-THAN          VALUE '<'.
      88 CIE-6-OPER-IS-NUMERIC          VALUE 'N'.
      88 CIE-6-OPER-IS-ZERO          VALUE 'Z'.
      88 CIE-6-OPER-IS-POSITIVE          VALUE 'P'.
      88 CIE-6-OPER-IS-NEGATIVE          VALUE 'G'.
      88 CIE-6-OPER-IS-KANJI          VALUE 'K'.
      88 CIE-6-OPER-IS-ALPHABETIC          VALUE 'A'.
      88 CIE-OPER-88-OR-OTHER          VALUE SPACE.

   05 CIE-6-ALL-INDICATOR          PIC X.
      88 CIE-6-ALL-INDICATED          VALUE 'A'.

   05 CIE-6-CORR-INDICATOR          PIC X.
      88 CIE-6-CORR-INDICATED          VALUE 'C'.

   05 CIE-6-DATA-1-ACTUAL-EXP-NBR          PIC 9(5).
   05 CIE-6-DATA-1-ACTUAL-COL-NBR          PIC 99.
   05 CIE-6-DATA-2-ACTUAL-EXP-NBR          PIC 9(5).
   05 CIE-6-DATA-2-ACTUAL-COL-NBR          PIC 99.

```

Exhibit 3
COPY Member for the Procedure Division Information File (continued on next page)

05	CIE-6-NON-CICS-FORMAT-2.		
10	CIE-6-NOT-INDICATOR	PIC X.	
	88 CIE-6-NOT-BEFORE-A		VALUE 'A'.
	88 CIE-6-NOT-BEFORE-B		VALUE 'B'.
10	CIE-6-EXHIBIT-FORM	PIC X.	
	88 CIE-6-EXHIBIT-NAMED		VALUE 'N'.
	88 CIE-6-EXHIBIT-CHANGED		VALUE 'C'.
	88 CIE-6-EXHIBIT-CHANGED-NAME		VALUE 'B'.
10	CIE-6-EXAMINE-FORM	PIC X.	
	88 CIE-6-EXAMINE-TALLYING		VALUE 'T'.
	88 CIE-6-EXAMINE-REPLACING		VALUE 'R'.
	88 CIE-6-EXAMINE-BOTH		VALUE 'B'.
10	CIE-6-GIVING-REMAINDER-SW	PIC X.	
	88 CIE-6-GIVING		VALUE 'G'.
	88 CIE-6-REMAINDER		VALUE 'R'.
10	CIE-6-INTO-BY-SW	PIC X.	
	88 CIE-6-INTO		VALUE 'I'.
	88 CIE-6-BY		VALUE 'B'.
	88 CIE-6-WITH-POINTER		VALUE 'P'.
10	CIE-6-OPEN-TYPE	PIC X.	
	88 CIE-6-OPEN-INPUT		VALUE 'I'.
	88 CIE-6-OPEN-I-O		VALUE 'B'.
	88 CIE-6-OPEN-OUTPUT		VALUE 'O'.
	88 CIE-6-OPEN-EXTEND		VALUE 'E'.
10	CIE-6-SET-TYPE	PIC X.	
	88 CIE-6-SET-TO		VALUE 'T'.
	88 CIE-6-SET-UP		VALUE 'U'.
	88 CIE-6-SET-DOWN		VALUE 'D'.
10	CIE-6-INSPECT-FORM	PIC X.	
	88 CIE-6-INSPECT-TALLYING		VALUE 'T'.
	88 CIE-6-INSPECT-REPLACING		VALUE 'R'.
	88 CIE-6-INSPECT-BOTH		VALUE 'B'.
	88 CIE-6-INSPECT-CONVERTING		VALUE 'C'.
10	CIE-6-INSPECT-INITIAL-SW	PIC X.	
	88 CIE-6-INSPECT-BEFORE		VALUE 'B'.
	88 CIE-6-WRITE-BEFORE		VALUE 'B'.
	88 CIE-6-INSPECT-AFTER		VALUE 'A'.
	88 CIE-6-WRITE-AFTER		VALUE 'A'.
10	CIE-6-SORT-MERGE-SW	PIC X.	
	88 CIE-6-SORT-MERGE-VALID-KEYS		VALUE 'A'.
			'D'.
	88 CIE-6-SORT-MERGE-ASCENDING		VALUE 'A'.
	88 CIE-6-SORT-MERGE-DESCENDING		VALUE 'D'.
	88 CIE-6-SORT-MERGE-USING		VALUE 'U'.
	88 CIE-6-SORT-MERGE-GIVING		VALUE 'G'.
10	CIE-6-SEND-WITH-SW	PIC X.	
	88 CIE-6-SEND-WITH-ESI		VALUE 'S'.
	88 CIE-6-SEND-WITH-EMI		VALUE 'M'.
	88 CIE-6-SEND-WITH-EGI		VALUE 'G'.
	88 CIE-6-SEND-WITH-IDENT		VALUE 'I'.
10	CIE-6-INITIALIZE-SW	REDEFINES	CIE-6-SEND-WITH-SW
		PIC X(1).	
	88 CIE-6-INIT-NO-OPERAND-2		VALUE '0'.
	88 CIE-6-INIT-REPL-ALPHABETIC		VALUE '1'.
	88 CIE-6-INIT-REPL-ALPHANUMERIC		VALUE '2'.
	88 CIE-6-INIT-REPL-NUMERIC		VALUE '3'.
	88 CIE-6-INIT-REPL-ALPHANU-EDITED		VALUE '4'.
	88 CIE-6-INIT-REPL-NUMERIC-EDITED		VALUE '5'.
	88 CIE-6-INIT-REPL-EGCS		VALUE '6'.

Exhibit 3

COPY Member for the Procedure Division Information File (Continued)

10	CIE-6-UNSTRING-SW		PIC X.
	88	CIE-6-UNSTR-DELIMITED-BY	VALUE 'D'.
	88	CIE-6-UNSTR-INTO	VALUE 'I'.
	88	CIE-6-UNSTR-DELIMITER-IN	VALUE 'L'.
	88	CIE-6-UNSTR-COUNT-IN	VALUE 'C'.
	88	CIE-6-UNSTR-WITH-POINTER	VALUE 'P'.
	88	CIE-6-UNSTR.-TALLYING	VALUE 'T'.
10	CIE-6-CALL-ENTRY-UTIL-SW		PIC X(1).
	88	CIE-6-9-P-D-USING-ENTRY	VALUE 'P'.
10	CIE-6-VARYING-FROM-BY-SW		PIC X(1).
	88	CIE-6-P-D-VARYING	VALUE 'V'.
	88	CIE-6-P-D-VARYING-FROM	VALUE 'F'.
	88	CIE-6-P-D-VARYING-FROM-BY	VALUE 'B'.
10	FILLER		PIC X(1).
05	CIE-CICS-FORMAT-2	REDEFINES	CIE-6-NON-CICS-FORMAT-2.
10	CIE-6-CICS-OPERAND		PIC X(15).

Exhibit 3

COPY Member for the Procedure Division Information File (Continued from previous page)

Table of Verb Codes

001	=	MOVE	034	=	UNSTRING
002	=	IF	035	=	PROGRAM-ENTRY
003	=	READ	036	=	CALL
004	=	WRITE	037	=	RESERVED-GO-TO-DEPENDING
005	=	ACCEPT	038	=	VARYING
006	=	ADD	039	=	AFTER
007	=	SUBTRACT	040	=	INITIALIZE
008	=	MULTIPLY	041	=	TIMES
009	=	DIVIDE	042	=	ON
010	=	COMPUTE	043	=	EVALUATE
011	=	CLOSE	044	=	EVALUATE-WHEN
012	=	DELETE	046	=	EXEC
013	=	DISPLAY	047	=	COPY
014	=	EXAMINE	050	=	PARAGRAPH-SECTION-NAME
015	=	EXHIBIT	051	=	ALTER
016	=	REWRITE	052	=	CANCEL
017	=	RELEASE	053	=	EXIT
018	=	RETURN	054	=	GO
019	=	WHEN	055	=	GOBACK
020	=	UNTIL	056	=	PERFORM
021	=	HANDLE-SUBSCRIPT	057	=	STOP
022	=	OPEN	060	=	INITIATE
023	=	SET	061	=	GENERATE
024	=	INSPECT	062	=	TERMINATE
025	=	MERGE	063	=	CONTROL-IN-RWRD
026	=	RECEIVE	064	=	RESET-IN-RW0149
027	=	SEARCH	065	=	SOURCE-IN-RW0149
028	=	SEND	066	=	SUM-IN-RW0149
029	=	SORT	067	=	SUM-UPON-IN-RW0149
030	=	START	068	=	TYPE-CH-IN-RW0149
031	=	SEEK	069	=	TYPE-CF-IN-RW0149
032	=	STRING			
033	=	TRANSFORM			

NOTE: Numbers are not completely contiguous. See CIE-6-VERB-CODE for a description of the field.

Description of Individual Fields

1. CIE-6-TYPE-RECORD An indicator showing the type of data name this record covers (regular qualification of a data name, qualification for a subscript or a subscript on an index). Ignore type 7 records.
2. CIE-6-QUAL-NUMBER For qualification records, this number shows the level of qualification (first, second, etc.).
3. CIE-6-SOURCE-LINE-NUMBER Do not use.
4. CIE-6-EXP-LINE-NUMBER The expanded sequence number (after COPY members has been resolved and brought into the program) where this data field is in the program.
5. CIE-6-DATA-1-NAME The syntax of every Procedure Division statement is broken into one or more groupings where one or two data names are directly involved. This field represents the first data name or literal. (For example: MOVE A TO B.) Note: Literals are truncated to 28 characters.
6. CIE-6-DATA-2-NAME This field will be blank or will contain the second data name.
7. CIE-6-NON-CICS-FORMAT-1 Do not use.
8. CIE-6-CICS-FORMAT-1 This field has information from CICS, DL1 or SQL statements.
9. CIE-6-VERB-CODE A three-digit code indicating the COBOL verb used in the Procedure Division that caused this record to be generated. See the Table of Verb Codes.
10. CIE-6-TYPE-ACTIVITY This code (while using different letters) is similar to the Set/Used/Tested indicators used in the System Record Analysis Report. “M” indicates the field was modified, “U” indicates the field is used to modify another field, “C” indicates a comparison, “S” indicates a subscript and “I” indicates an INDEX.
11. CIE-6-COMPARE-OPERATOR This code is filled in for many comparisons to indicate the type of comparison.
12. CIE-6-ALL-INDICATOR Do not use.
13. CIE-6-CORR-INDICATOR Used to indicate the presence of CORRESPONDING.

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Basic Paragraph Information File

This file has basic information on the location of paragraphs and sections and the referencing of those paragraphs through Procedure Division statements.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility section of this manual (e.g. PROC DCDACL).
2. Use the following PROC Symbolics on the EXEC DCDACL (or other PROC name) line to turn off all report PARM options as follows:

```
SOURCE=NO,  
CALL=NO,  
COPY=NO,  
FIGCON=NO,  
LITERAL=NO,  
SPREGS=NO,  
CDATADV=NO,  
CPROC DV=NO,  
OTHER='NOVER,NOIRE'
```

To access the file:

1. The file is available on the file with the DDNAME of DCDWK06.
2. The LRECL of the file is 104.

The following pages show the internally used Data Division COPY member that was used to create the file and a description of the related fields within the record.

```

**          COPY PARATYPI          (PF1)
01 PAR-1-BASIC-PARAGRAPH-INFO.

    05 PAR-1-SOURCE-LINE-NUMBER      PIC 9(5).
    05 PAR-1-EXPANDED-LINE-NUMBER    PIC 9(5).
    05 PAR-1-TOKEN-COLUMN-NUMBER     PIC 9(2).

    05 PAR-1-PARA-OR-SECT            PIC X(30).

    05 PAR-1-RELEVANT-SECTION        PIC X(30).

    05 PAR-1-VERB-CODE                PIC 999.
      88 PAR-1-PARAGRAPH-NAME          VALUE 001.
      88 PAR-1-SECTION-NAME            VALUE 002.
      88 PAR-1-PRIOR-TOKEN-OF-PARA-SECT VALUE 005.
      88 PAR-1-LAST-TOKEN-IN-PROGRAM   VALUE 006.
      88 PAR-1-DECLARATIVES            VALUE 008.
      88 PAR-1-END-DECLARATIVES        VALUE 009.
      88 PAR-1-GO-TO                    VALUE 011.
      88 PAR-1-GO-TO-DEPENDING-ON      VALUE 012.
      88 PAR-1-PERFORM                  VALUE 021.
      88 PAR-1-PERFORM-THRU            VALUE 022.
      88 PAR-1-INPUT-PROCEDURE         VALUE 025.
      88 PAR-1-INPUT-PROCEDURE-THRU    VALUE 026.
      88 PAR-1-OUTPUT-PROCEDURE        VALUE 027.
      88 PAR-1-OUTPUT-PROCEDURE-THRU   VALUE 028.
      88 PAR-1-ALTER-PARA              VALUE 031.
      88 PAR-1-ALTER-PARA-TO-PROCEED-TO VALUE 032.
      88 PAR-1-GOBACK                   VALUE 041.
      88 PAR-1-STOP-RUN                 VALUE 042.
      88 PAR-1-EXIT-PROGRAM             VALUE 043.
      88 PAR-1-EXIT                     VALUE 048.
      88 PAR-1-CALL                     VALUE 051.
      88 PAR-1-PROGRAM-ENTRY           VALUE 052.
      88 PAR-1-ENTRY                    VALUE 053.
      88 PAR-1-CANCEL                   VALUE 054.
      88 PAR-1-INITIATE                 VALUE 060.
      88 PAR-1-GENERATE                 VALUE 061.
      88 PAR-1-TERMINATE                VALUE 062.
      88 PAR-1-EXEC-CICS                VALUE 071.
      88 PAR-1-EXEC-DLI                 VALUE 072.
      88 PAR-1-EXEC-SQL                 VALUE 073.

    05 PAR-1-CONDITIONAL-SW           PIC X.
      88 PAR-1-CONDITIONAL              VALUE 'Y'.

    05 PAR-1-MULTIPLE-OPERANDS-SW     PIC X.
      88 PAR-1-MULTIPLE-OPERANDS        VALUE 'Y'.

    05 PAR-1-NAME-EXP-LINE-NUMBER     PIC 9(5).
    05 PAR-1-NAME-COLUMN-NUMBER       PIC 9(2).
    05 PAR-1-FILLER                    PIC X(20).

```

Exhibit 4

COPY Member for the Basic Paragraph Information File

Description of Individual Fields

- | | | |
|-----|----------------------------|---|
| 1. | PAR-1-SOURCE-LINE-NUMBER | Do not use. |
| 2. | PAR-1-EXPANDED-LINE-NUMBER | An expanded sequence number (after COPY members have been resolved and brought into the program) of a statement number in the Procedure Division representing a paragraph or section, or a statement with a reference to a paragraph or section or external transfer. |
| 3. | PAR-1-TOKEN-COLUMN-NUMBER | The column number of the beginning of the paragraph or verb which references the paragraph. |
| 4. | PAR-1-PARA-OR-SECT | The name of a paragraph, a section or a comment generated to correspond to the code used in PAR-1-VERB-CODE. |
| 5. | PAR-1-RELEVANT-SECTION | The name of the parent section (if one exists) for paragraph records. |
| 6. | PAR-1-VERB-CODE | A three-digit code explaining what verb or condition generated this record. |
| 7. | PAR-1-CONDITIONAL-SW | Used to indicate that the verb causing this record is part of a conditional statement such as READ/ AT END OR IF. |
| 8. | PAR-1-MULTIPLE-OPERANDS-SW | Used to indicate that one of multiple operands is listed and others are not in the paragraph field. An example of this is CALL USING. |
| 9. | PAR-1-NAME-EXP-LINE-NUMBER | An expanded sequence number of the actual paragraph name for verb codes where a paragraph name is used as an operand. Otherwise, this field will be zero. |
| 10. | PAR-1-NAME-COLUMN-NUMBER | A column number which corresponds to the above sequence number. |

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Paragraph Range Information File

This file has most of the information in the Basic Paragraph Information File and the beginning and ending sequence numbers showing the range of those paragraphs or sections.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility Section of this manual (e.g. PROC DCDACL).
2. Use the PROC Symbolic SOURCE= on the EXEC DCDACL (or other PROC name) line to turn on the SOURCE PARM option. This option is normally already on. Other options may also be left on.

To access the File:

1. The file is available on the file with the DDNAME of DCDWK03.
2. The LRECL of the file is 104.

The following pages show the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

```

**
01  PARA-2-RANGES-FOR-PARAS.          COPY PARATYP2      (PF2)

05  PAR-2-SOURCE-LINE-NUMBER          PIC 9(5).
05  PAR-2-EXPANDED-LINE-NUMBER       PIC 9(2).
05  PAR-2-TOKEN-COLUMN-NUMBER        PIC 9(2).

05  PAR-2-PARA-OR-SECT                PIC X(30).

05  PAR-2-RELEVANT-SECTION            PIC X(30).

05  PAR-2-VERB-CODE                   PIC 999.

    88  PAR-2-PARAGRAPH-NAME           VALUE 001.
    88  PAR-2-SECTION-NAME             VALUE 002.
    88  PAR-2-PRIOR-TOKEN-OF-PARA-SECT VALUE 005.
    88  PAR-2-LAST-TOKEN-IN-PROGRAM    VALUE 006.
    88  PAR-2-DECLARATIVES             VALUE 008.
    88  PAR-2-END-DECLARATIVES         VALUE 009.
    88  PAR-2-GO-TO                     VALUE 011.
    88  PAR-2-GO-TO-DEPENDS-ON         VALUE 012.
    88  PAR-2-PERFORM                   VALUE 021.
    88  PAR-2-PERFORM-THRU              VALUE 022.
    88  PAR-2-INPUT-PROCEDURE           VALUE 025.
    88  PAR-2-INPUT-PROCEDURE-THRU     VALUE 026.
    88  PAR-2-OUTPUT-PROCEDURE          VALUE 027.
    88  PAR-2-OUTPUT-PROCEDURE-THRU    VALUE 028.
    88  PAR-2-ALTER-PARA                VALUE 031.
    88  PAR-2-ALTER-TO-PROCEED-TO      VALUE 032.
    88  PAR-2-GOBACK                    VALUE 041.
    88  PAR-2-STOP-RUN                  VALUE 042.
    88  PAR-2-EXIT-PROGRAM              VALUE 043.
    88  PAR-2-EXIT                      VALUE 048.
    88  PAR-2-CALL                      VALUE 051.
    88  PAR-2-PROGRAM-ENTRY             VALUE 052.
    88  PAR-2-ENTRY                     VALUE 053.
    88  PAR-2-CANCEL                     VALUE 054.
    88  PAR-2-INITIATE                  VALUE 060.
    88  PAR-2-GENERATE                  VALUE 061.
    88  PAR-2-TERMINATE                 VALUE 062.
    88  PAR-2-EXEC-CICS                 VALUE 071.
    88  PAR-2-EXEC-DL1                  VALUE 072.
    88  PAR-2-EXEC-SQL                  VALUE 073.

05  PAR-CONDITIONAL-SW                PIC X.
    88  PAR-2-CONDITIONAL                VALUE 'Y'.

05  PAR-2-MULTIPLE-OPERANDS-SW        PIC X.
    88  PAR-MULTIPLE-OPERANDS            VALUE 'Y'.

05  PAR-2-NAME-EXP-LINE-NUMBER        PIC 9(5).
05  PAR-2-NAME-COLUMN-NUMBER          PIC 9(2).

05  PAR-2-SOURCE-BEGIN-NBR            PIC 9(5).
05  PAR-2-EXPANDED-BEGIN-NBR          PIC 9(5).

05  PAR-2-SOURCE-END-NBR              PIC 9(5).
05  PAR-2-EXPANDED-END-NBR            PIC 9(5).

```

Exhibit 5

COPY Member for the Paragraph Range Information File

Description of Individual Fields

- | | | |
|-----|----------------------------|--|
| 1. | PAR-2-SOURCE-LINE-NUMBER | Do not use. |
| 2. | PAR-2-EXPANDED-LINE-NUMBER | An expanded sequence number (after COPY members have been resolved and brought into the program) of a statement number in the Procedure Division representing a paragraph or section or a statement with a reference to a paragraph or section or external transfer. |
| 3. | PAR-2-TOKEN-COLUMN-NUMBER | The column number of the beginning of the paragraph or verb which references the paragraph. |
| 4. | PAR-2-PARA-OR-SECT | The corresponding paragraph or section name. |
| 5. | PAR-2-RELEVANT-SECTION | When PAR-2-PARA-OR-SECT contains a paragraph name, this field will contain the section name that the paragraph name resides in. |
| 6. | PAR-2-VERB-CODE | A three-digit code explaining what verb or condition generated this record. |
| 7. | PAR-2-CONDITIONAL-SW | Used to indicate that the verb causing this record is part of a conditional statement such as READ / AT END or IF. |
| 8. | PAR-2-MULTIPLE-OPERANDS-SW | Used to indicate that one of multiple operands is listed and others are not in the paragraph field. An example of this is CALL USING. |
| 9. | PAR-2-NAME-EXP-LINE-NUMBER | An expanded sequence of the actual paragraph name for verb codes where a paragraph name is used as an operand. Otherwise this field will be zero. |
| 10. | PAR-2-NAME-COLUMN-NUMBER | A column number which corresponds to the above sequence number. |
| 11. | PAR-2-SOURCE-BEGIN-NBR | Do not use. |
| 12. | PAR-2-EXPANDED-BEGIN-NBR | For verbs which make reference to a paragraph or section this field shows the beginning expanded sequence number of the paragraph or section being referenced. |
| 13. | PAR-2-SOURCE-END-NBR | Do not use. |
| 14. | PAR-2-EXPANDED-END-NBR | For verbs that require both begin and end sequence numbers, (e.g. PERFORM), this field shows the ending expanded sequence number. |

Transfer of Control Narrative File

This file has a narrative showing transfer of control information for paragraphs, sections and transfer of control statements such as CALL, PERFORM and GO TO.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility section of this manual (e.g. PROC DCDACL).
2. Use the PROC Symbolic SOURCE= on the EXEC DCDACL (or other PROC name) line to turn on the SOURCE PARM option. This is normally the default. Other options may be left on.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK04.
2. The LRECL of the file is 40.

The following page shows the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

** COPY PARATYPE3. (PF3)

01 PAR-3-NARRATIVE-FOR-SRC-LIST

05 PAR-3-EXPANDED-LINE-NUMBER PIC 9(5).
05 PAR-3-NARRATIVE PIC X(34).
05 PAR-3-FILLER PIC X(1).

Exhibit 6

COPY Member for the Transfer of Control Narrative File

Description of Individual Fields

1. PAR-3-EXPANDED-LINE-NUMBER An expanded sequence number of the Procedure Division statement for which the narrative is for.
2. PAR-3-NARRATIVE Transfer of control narrative belonging to the COBOL verb in the Procedure Division statement referenced by the expanded line number.

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Procedure Division References to the Data Division

This file is a narrative file showing the references for each Procedure Division line back to the Data Division.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility Section of this manual (e.g. PROC DCDACL).
2. Use the PROC Symbolic SOURCE= on the EXEC DCDACL (or other PROCname) line to turn on the SOURCE PARM option. This is normally the default. Other options may be left on.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK02.
2. The LRECL of the file is 52.

The following pages show the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

```

01 RR-WORK-RECORD.
05 RR-P-D-CPMLR-NBR          PIC 9(5).
05 RR-NARR-LENGTH           PIC 99.

05 RR-SQ-NBR-WORK-AREA.
10 RR-DATA-DIV-SQ-NBRS-6    OCCURS 7 TIMES.
15 RR-DATA-DIV-CMPLR-6     PIC ZZZZ99.
10 FILLER                   PIC XX.

05 RR-WORK-AREA-2 REDEFINES RR-SQ-NBR-WORK-AREA.
10 RR-DATA-DIV-SQ-NBRS-5    OCCURS 8 TIMES
15 RR-DATA-DIV-CMPLR-5     PIC ZZZ99.
10 FILLER                   PIC X(4).
05 RR-WORK-AREA-3 REDEFINES RR-SQ-NBR-WORK-AREA.
10 RR-DATA-DIV-SQ-NBRS-4    OCCURS 10 TIMES.
15 RR-DATA-DIV-CMPLR-4     PIC ZZ99.
10 FILLER                   PIC X(4).

05 RR-WORK-AREA-4 REDEFINES RR-SQ-NBR-WORK-AREA.
10 RR-DATA-DIV-SQ-NBRS-3    OCCURS 14 TIMES.
15 RR-DATA-DIV-CMPLR-3     PIC Z99.
10 FILLER                   PIC X(2).

05 RR-WORK-AREA-5 REDEFINES RR-SQ-NBR-WORK-AREA.
10 RR-POS                   OCCURS 44 TIMES.
                             PIC X.
05 RR-WORK-AREA-6 REDEFINES RR-SQ-NBR-WORK-AREA.
10 FILLER                   PIC X(29).
10 RR-CA3-FINAL-5-POS       PIC ZZZZ99.
10 RR-CA3-LAST-CHAR        PIC X(01).
10 FILLER                   PIC X(01).
10 RR-FINAL-5-POS          PIC ZZZZ99.
10 RR-LAST-CHAR            PIC X(01).

05 RR-WORK-AREA-7 REDEFINES RR-SQ-NBR-WORK-AREA.
10 FILLER                   PIC X(30).
10 RR-CA3-FINAL-4-POS       PIC ZZZ99.
10 FILLER                   PIC X(03).
10 RR-FINAL-4-POS          PIC ZZZ99.
10 FILLER                   PIC X(01).

05 RR-WORK-AREA-8 REDEFINES RR-SQ-NBR-WORK-AREA.
10 FILLER                   PIC X(31).
10 RR-CA3-FINAL-3-POS       PIC ZZ99.
10 FILLER                   PIC X(04).
10 RR-FINAL-3-POS          PIC ZZ99.
10 FILLER                   PIC X(01).

05 RR-LAST-FILLER          PIC X.
    
```

Exhibit 7

COPY Member for Procedure Division References to the Data Division

Description of Individual Fields

1. RR-P-D-CMPLR-NBR
An expanded sequence number (after COPY members have been resolved and brought into the program) of a statement in the Procedure Division which has references to the Data Division.
2. RR-NARR-LENGTH
The length in characters of the narrative that follows in the next field.
3. RR-SQ-NBR-WORK-AREA
An area where numbers representing references back to the Data Division are placed. The numbers will have only as many digits reserved for the number as the largest sequence number is present in the Data Division with a minimum of 2 digits.
One Space is left between all numbers. In cases where smaller numbers are present, more than one space will be used. The best example of this field is by looking at this file after running a user's COBOL program through DCD III.

Procedure Division Narrative for Each Data Field

This file has a narrative for each Data Division field showing all Procedure Division references to this field. The length of the narrative is 43 characters.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility section of this manual (e.g. PROC DCDACL).
2. Use the PROC Symbolic SOURCE= on the EXEC DCDACL (or other PROC name) line to turn on the SOURCE PARM option. This option is normally already on. Other options may be left on.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK05.
2. The LRECL of file is 60.

The following page shows the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

01	NR-RECORD	
	05 NR-CMPLR-NBR	PIC 9(5).
	05 NR-NARRATIVE	PIC X(55).

Exhibit 8

COPY Member for Procedure Division Narrative for Each Data Field

Description of Individual Fields

1. NR-CMPLR-NBR An expanded sequence number of the Data Division statement for which the narrative is for.
2. NR-NARRATIVE COBOL narrative belonging to the data name indicated by the sequence number above.

Expanded Procedure Division Narrative

This file has a narrative for each Data Division field showing all Procedure Division references to this field. The length of the narrative is 83 characters.

To produce the file:

1. Use one of the PROCs in the Other COBOL Reports Facility section of this manual (e.g. PROC DCDCOBOL).
2. Use the PROC Symbolic DATA= on the EXEC DCDCOBOL (or other PROC name) line to turn on the DATA PARM option.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK05.
2. The LRECL of the file is 130.

The following page shows the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

01	NR-RECORD.	
05	NR-DATA-NAME	PIC X(30)
05	NR-PROGRAM-NAME	PIC X(08).
05	NR-CMPLR-NBR	PIC 9(05).
05	NR-SEQ-NBR	PIC 9(04).
05	NR-NARRATIVE	PIC X(83).

Exhibit 9

COPY Member for the Expanded Procedure Division Narrative

Description of Individual Fields

- | | | |
|----|-----------------|---|
| 1. | NR-DATA-NAME | Data name that the COBOL narrative is for. |
| 2. | NR-PROGRAM-NAME | COBOL program-id. |
| 3. | NR-CMPLR-NBR | Expanded sequence number. |
| 4. | NR-SEQ-NBR | A number from 1 to 9999, re-starting at 1 for every data name. |
| 5. | NR-NARRATIVE | The COBOL narrative that appears on the System Data Name Cross-Reference. |

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Data Dictionary Interface File

This file produces the same information produced on the System Record Analysis Report. Specifically, direct and indirect flags are available which show data movement and comparison for each field within selected records.

To produce the file:

1. See the heading, “**Data Dictionary Interface File**”, in the Other COBOL Reports Facility section. Control statements are required.

To access the file:

1. The file is available on the file with the DDNAME of DCDDICT.
2. The LRECL of the file is 120.

The following pages show the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

```

**          COPY          SYS1RECD

01  SRA-SYSTEM-RECORD-ANAL-REC.
    05  SRA-SET-NUMBER          PIC999.
    05  SRA-FROM-TO-LOCATIONS.
        10  SRA-FROM-POSITION  PIC  9(6).
        10  SRA-TO-POSITION   PIC  9(6).
    05  SRA-PROGRAM-ID        PIC  X(8).
    05  SRA-RECORD-NAME       PIC  X(30).
    05  SRA-DATA-NAME         PIC  X(30).
    05  SRA-EXP-CMPLR-NBR     PIC  9(5).
    05  SRA-LEVEL-NUMBER      PIC  XX.
    05  SRA-TYPE-USAGE        PIC  X(2).
        88  SRA-TYPE-COMP          VALUE 'C'.
        88  SRA-TYPE-COMP-1       VALUE 'C1'.
        88  SRA-TYPE-COMP-2       VALUE 'C2'.
        88  SRA-TYPE-COMP-3       VALUE 'C3'.
        88  SRA-TYPE-COMP-4       VALUE 'C4'.
        88  SRA-TYPE-DEFAULT-DISPLAY VALUE ' '.
        88  SRA-TYPE-DISPLAY      VALUE 'D'.
        88  SRA-TYPE-DISPLAY-1    VALUE 'D1'.
        88  SRA-TYPE-INDEX        VALUE 'IX'.
        88  SRA-TYPE-USAGE-IS-INDEX VALUE 'UT'.
        88  SRA-TYPE-POINTER      VALUE 'PR'.
    05  SRA-FLAGS.
        10  SRA-SET-FLAG          PIC  X.
            88  SRA-DIRECT-SET      VALUE 'S'.
        10  SRA-USED-FLAG        PIC  X.
            88  SRA-DIRECT-USED     VALUE 'U'.
        10  SRA-TESTED-FLAG      PIC  X.
            88  SRA-DIRECT-TESTED  VALUE 'T'.
        10  SRA-INDIR-SET-FLAG   PIC  X.
            88  SRA-INDIRECT-SET    VALUE 'S'.
        10  SRA-INDIR-USED-FLAG  PIC  X.
            88  SRA-INDIRECT-USED   VALUE 'U'.
        10  SRA-INDIR-TESTED-FLAG PIC  X.
            88  SRA-INDIRECT-TESTED VALUE 'T'.
    05  SRA-PICTURE-CLAUSE      PIC  X(21).
    05  SRA-FILLER              PIC  X.

```

Exhibit 10

COPY Member for the Data Dictionary Interface File

Description of Individual Fields

1. SRA-SET-NUMBER Sequential number starting at 1 showing which set of control cards produced this set of records.

2. SRA-FROM-TO-LOCATIONS From and to record positions for this data name.

3. SRA-DATA-ID Taken from the program-id in the Identification Division.

4. SRA-RECORD-NAME The name of the 01 record which contains this data name.

5. SRA-DATA-NAME Self-explanatory.

6. SRA-EXP-CMPLR-NBR Compiler number or sequence number in the program of this data name.

7. SRA-LEVEL-NUMBER 01-49 level number associated with this data name.

8. SRA-TYPE-USAGE USAGE of this data name.

9. SRA-FLAGS Contains flags showing how this data field is used in the program.

Direct flags indicate this field was involved in the Procedure Division statement, which caused this flag.

Indirect flags indicate this field was not involved in the Procedure Division statement, which caused this flag.

SET indicates that this is changed.

USED indicates that this field was used to modify, in some way, another field.

TESTED indicates that this field was used in a comparison.

10. SRA-PICTURE-CLAUSE The first 21 characters of the PICTURE clause associated with this data name.

11. SRA-FILLER Not used at this time.

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PICTURE and Literal File

This file contains information on PICTURES, VALUE literals and literals used in the Procedure Division.

To produce the file:

1. Use one of the PROCs in the Alternate Compile Listing Facility Section of this manual (e.g. PROC DCDACL).
2. Use SOURCE=NO as a PROC Symbolic on the EXEC DCDACL (or other PROC name) line to turn off the SOU PARM option.
3. All other report options must be on. This is normally the default.

To access the file:

1. The file is available on the file with the DDNAME of DCDWK02.
2. The LRECL of the file is 104.

The following pages show the internally used Data Division COPY member that was used to create the file, and a description of the related fields within the record.

**	COPY	INFOTYP3	(IN3)
01	CIE-3-PICTURE-LITERAL-INFO.		
05	CIE-3-SOURCE-LINE-NUMBER	PIC 9(5).	
05	CIE-3-EXPANDED-LINE-NUMBER	PIC 9(5).	
05	CIE-3-FIELD-COLUMN-NUMBER	PIC 9(2).	
05	CIE-3-TYPE-CHANGE-IND	PIC X.	
88	CIE-3-CHANGE-PICTURE		VALUE 'P'.
88	CIE-3-CHANGE-LITERAL		VALUE 'L'.
88	CIE-3-CHANGE-RECORD		VALUE 'R'.
88	CIE-3-CHANGE-BLOCK		VALUE 'B'.
88	CIE-3-LITERAL-FOR-ELEM		VALUE '5'.
88	CIE-3-LITERAL-FOR-88		VALUE '8'.
88	CIE-PICTURE-FOR-ELEM		VALUE 'C'.
88	CIE-3-COPY-STATEMENT		VALUE 'Q'.
88	CIE-3-COPY-FOLLOW-REC		VALUE 'V'.
88	CIE-3-SYS-FIG-CONST		VALUE 'F'.
88	CIE-3-SYS-SP-REG		VALUE 'S'.
05	CIE-3-OLD-FIELD-LENGTH	PIC 9(5).	
05	CIE-3-AMT-OF-FIELD-INCREASE	PIC 9(2).	
05	CIE-EXPANSION-INFORMATION.		
10	CIE-3-EXPANSION-CODE	PIC 9(3).	
88	CIE-3-EXPANSION-CODE-IGNORED		VALUE 000.
10	CIE-3-EXPANSION-BEGIN-POS	PIC 99.	
10	CIE-3-EXPANSION-END-POS	PIC 99.	
05	CIE-3-DIVISION-INDICATOR	PIC X.	
88	CIE-3-ID-DIVISION		VALUE 'I'.
88	CIE-3-ENVIRONMENT-DIVISION		VALUE 'E'.
88	CIE-3-DATA-DIVISION		VALUE 'D'.
88	CIE-3-PROCEDURE-DIVISION		VALUE 'P'.
05	CIE-3-DATA-NAME	PIC X(30).	
05	CIE-3-COPY-MEMBER-NAME	PIC X(8).	
05	CIE-3-PROGRAM-ID-NAME	PIC X(8).	
05	CIE-3-SOU-DATA-NAME-LINE-NBR	PIC 9(5).	
05	CIE-3-EXP-DATA-NAME-LINE-NBR	PIC 9(5).	
05	CIE-3-LEVEL-NUMBER	PIC 99.	
05	CIE-3-ALL-LITERAL-SW	PIC X.	
88	CIE-3-ALL-LITERAL		VALUE 'Y'.
05	CIE-3-COPY-SUPPRESS-SW	PIC X.	
88	CIE-3-COPY-SUPPRESS		VALUE 'S'.
05	CIE-3-COPY-REPLACING-SW	PIC X.	
88	CIE-3-COPY-REPLACING		VALUE 'R'.
05	CIE-3-VALUE-THRU-SW	PIC X.	
88	CIE-3-VALUE-THRU		VALUE 'T'.
05	CIE-3-FILLER-TO-104	PIC X(14)	

Exhibit 11

COPY Member for the PICTURE and Literal File

Description of Individual Fields

- | | | |
|-----|------------------------------|--|
| 1. | CIE-3-SOURCE-LINE-NUMBER | Do not use. |
| 2. | CIE-3-EXPANDED-LINE-NUMBER | The expanded sequence number (after COPY members have been resolved and brought into the program) of the actual line containing the literal or PICTURE clause. |
| 3. | CIE-3-FIELD-COLUMN-NUMBER | The column number on this line where the PICTURE or literal begins. |
| 4. | CIE-3-TYPE-CHANGE-IND | A code indicating the type of information stored on this record. The “P” code will appear in this record as a “C”. The “L” code will appear (for the Data Division) as a “5” or “8”. |
| 5. | CIE-3-OLD-FIELD-LENGTH | Do not use. |
| 6. | CIE-3-AMT-OF-FIELD-INCREASE | Do not use. |
| 7. | CIE-3-EXPANSION-INFORMATION | Do not use. |
| 8. | CIE-3-DIVISION-INDICATOR | Indicates what division this record comes from. |
| 9. | CIE-3-DATA-NAME | The PICTURE clause or actual literal. |
| 10. | CIE-3-COPY-MEMBER-NAME | If this field is part of a COPY member, then the COPY member name is shown here. |
| 11. | CIE-3-PROGRAM-ID-NAME | The program-id from this COBOL program. |
| 12. | CIE-3-SOU-DATA-NAME-LINE-NBR | Do not use. |
| 13. | CIE-3-EXP-DATA-NAME-LINE-NBR | The expanded sequence number of the level number that belongs to and represents this PICTURE or literal. |
| 14. | CIE-3-LEVEL-NUMBER | The level number. |
| 15. | CIE-3-ALL-LITERAL-SW | Do not use. |
| 16. | CIE-3-COPY-SUPPRESS-SW | Used to indicate the use of SUPPRESS on a COPY statement. |
| 17. | CIE-3-COPY-REPLACING-SW | Used to indicate the use of REPLACING on a COPY statement. |
| 18. | CIE-3-VALUE-THRU-SW | Indicates the presence of an ALL before the literal. |

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