======================================================================= Merger

Merger

PROGRAM MERGER Merger

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VERSION 80-1 (JANUARY 1980) Merger

VERSION 80-2 (DECEMBER 1980) Merger

VERSION 82-1 (JANUARY 1982) Merger

VERSION 83-1 (JANUARY 1983)\*NEW, MORE COMPATIBLE I/O UNIT NUMBERS. Merger

VERSION 85-1 (AUGUST 1985) \*FORTRAN-77/H VERSION Merger

VERSION 86-1 (JANUARY 1986)\*ENDF/B-VI FORMATS Merger

VERSION 88-1 (JULY 1988) \*OPTION...INTERNALLY DEFINE ALL I/O Merger

FILE NAMES (SEE, SUBROUTINES FILIO1 Merger

AND FILIO2 FOR DETAILS). Merger

\*IMPROVED BASED ON USER COMMENTS. Merger

VERSION 89-1 (JANUARY 1989)\*PSYCHOANALYZED BY PROGRAM FREUD TO Merger

INSURE PROGRAM WILL NOT DO ANYTHING Merger

CRAZY. Merger

\*UPDATED TO USE NEW PROGRAM CONVERT Merger

KEYWORDS. Merger

\*ADDED LIVERMORE CIVIC COMPILER Merger

CONVENTIONS. Merger

VERSION 92-1 (JANUARY 1992)\*UPDATED BASED ON USER COMMENTS Merger

\*ADDED FORTRAN SAVE OPTION Merger

VERSION 92-2 (JULY 1992) \*ALLOW UP TO 99 ENDF/B DATA FILES. Merger

(TO ALLOW MANAGEMENT OF THE ENTIRE Merger

ENDF/B SYSTEM). Merger

VERSION 94-1 (JANUARY 1994)\*VARIABLE ENDF/B DATA FILENAMES Merger

TO ALLOW ACCESS TO FILE STRUCTURES Merger

(WARNING - INPUT PARAMETER FORMAT Merger

HAS BEEN CHANGED) Merger

\*ONLY SPECIFY FILENAMES - NO UNIT Merger

NUMBERS ON INPUT (WARNING - INPUT Merger

PARAMETERS FORMAT HAS BEEN CHANGED) Merger

\*CLOSE ALL FILES BEFORE TERMINATING Merger

(SEE, SUBROUTINE ENDIT) Merger

\*REQUEST LOG DELETED Merger

VERSION 96-1 (JANUARY 1996) \*COMPLETE RE-WRITE Merger

\*IMPROVED COMPUTER INDEPENDENCE Merger

\*ALL DOUBLE PRECISION Merger

\*ON SCREEN OUTPUT Merger

\*UNIFORM TREATMENT OF ENDF/B I/O Merger

\*IMPROVED OUTPUT PRECISION Merger

VERSION 99-1 (MARCH 1999) \*GENERAL IMPROVEMENTS BASED ON Merger

USER FEEDBACK Merger

VERS. 2000-1 (FEBRUARY 2000)\*GENERAL IMPROVEMENTS BASED ON Merger

USER FEEDBACK Merger

VERS. 2002-1 (MAY 2002) \*OPTIONAL INPUT PARAMETERS Merger

VERS. 2004-1 (MARCH 2004) \*ADDED INCLUDE TO DEFINE COMMON Merger

\*ADDED TEND LINE IF NO DATA RETRIEVED Merger

VERS. 2007-1 (JAN. 2007) \*CHECKED AGAINST ALL ENDF/B-VII. Merger

VERS. 2007-2 (JUNE 2007) \*UP, TO 1,000 ENDF/B FILES. Merger

\*72 CHARACTER FILE NAMES. Merger

VERS. 2010-1 (Apr. 2010) \*General update based on user feedback Merger

VERS. 2012-1 (Aug. 2012) \*Added CODENAME Merger

\*32 and 64 bit Compatible Merger

\*Added ERROR stop Merger

VERS. 2015-1 (Jan. 2015) \*Replaced ALL 3 way IF Statements. Merger

Merger

OWNED, MAINTAINED AND DISTRIBUTED BY Merger

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THE NUCLEAR DATA SECTION Merger

INTERNATIONAL ATOMIC ENERGY AGENCY Merger

P.O. BOX 100 Merger

A-1400, VIENNA, AUSTRIA Merger

EUROPE Merger

Merger

ORIGINALLY WRITTEN BY Merger

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Merger

AUTHORS MESSAGE Merger

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THE COMMENTS BELOW SHOULD BE CONSIDERED THE LATEST DOCUMENTATION Merger

FOR THIS PROGRAM INCLUDING ALL RECENT IMPROVEMENTS. PLEASE READ Merger

ALL OF THESE COMMENTS BEFORE IMPLEMENTATION, PARTICULARLY THE Merger

COMMENTS CONCERNING MACHINE DEPENDENT CODING. Merger

Merger

AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTER Merger

INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE Merger

OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECT Merger

IT WOULD BE APPECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY Merger

COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO Merger

IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF Merger

THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR Merger

COMPUTER. Merger

Merger

PURPOSE Merger

------- Merger

THIS PROGRAM IS DESIGNED TO SELECTIVELY RETRIEVE DATA OFF OF FROM Merger

1 TO 10 ENDF/B DATA TAPES AND TO MERGE THE SELECTED DATA INTO A Merger

SINGLE MAT/MF/MT ORDERED FINAL OUTPUT FILE. Merger

Merger

IN THE DISCUSSION THAT FOLLOWS FOR SIMPLICITY THE ENDF/B Merger

TERMINOLOGY---ENDF/B TAPE---WILL BE USED. IN FACT THE ACTUAL Merger

MEDIUM USED MAY BE TAPE, CARD, DISK OR ANY OTHER MEDIUM. Merger

Merger

ENDF/B FORMAT Merger

------------- Merger

THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS Merger

OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION Merger

OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II,III, IV OR V FORMAT). Merger

Merger

THE ONLY NUMERICAL DATA THAT THIS PROGRAM READS IS THE ZA FROM THE Merger

FIRST CARD OF EACH SECTION AND THE MAT/MF/MT FROM EACH CARD. Merger

SEQUENCE NUMBERS ARE IGNORED ON INPUT AND ALL OTHER FIELDS ARE Merger

READ AS HOLLERITH. AS SUCH THIS PROGRAM NEED NOT DISTINGUISH Merger

BETWEEN DIFFERENT VERSIONS OF THE ENDF/B FORMAT. Merger

Merger

IT IS ASSUMED THAT THE DATA IS CORRECTLY CODED IN THE ENDF/B Merger

FORMAT AND NO ERROR CHECKING IS PERFORMED. IN PARTICULAR IT IS Merger

ASSUMED THAT THE MAT, MF AND MT ON EACH CARD IS CORRECT. SEQUENCE Merger

NUMBERS (COLUMNS 76-80) ARE IGNORED ON INPUT, BUT WILL BE Merger

CORRECTLY OUTPUT ON ALL CARDS. Merger

Merger

SECTION SIZE Merger

------------ Merger

SINCE THIS PROGRAM ONLY READS THE DATA ONE CARD AT A TIME THERE Merger

IS NO LIMIT TO THE SIZE OF ANY GIVEN SECTION, E.G. THE TOTAL Merger

CROSS SECTION MAY BE DESCRIBED BY 200,000 DATA POINTS. Merger

Merger

SELECTION OF DATA Merger

----------------- Merger

THE USER MAY CHOOSE TO MERGE ALL DATA OR THE USER MAY SPECIFY Merger

THAT ONLY CERTAIN DATA SHOULD BE SELECTED. THE DATA TO BE Merger

SELECTED IS DEFINED BY SPECIFYING UP TO 100 MAT/MF/MT OR Merger

ZA/MF/MT RANGES. EACH RANGE IS DEFINED BY LOWER AND UPPER LIMITS Merger

OF MAT/MF/MT OR ZA/MF/MT. Merger

Merger

REQUEST LIMITS Merger

-------------- Merger

IN ORDER TO SIMPLIFY THE INPUT OF SELECTION REQUESTS THE FOLLOWING Merger

CONVENTIONS HAVE BEEN INTRODUCED IN ORDER TO DEFINE THE UPPER Merger

LIMITS OF REQUESTS IF THEY ARE NOT DEFINED BY INPUT (I.E., IF THEY Merger

ARE ZERO). Merger

Merger

(1) MAT OR ZA - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE Merger

LOWER LIMIT. Merger

(2) MF OR MT - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE Merger

MAXIMUM POSSIBLE VALUE, 99 OR 999 RESPECTIVELY. Merger

Merger

WITH THESE CONVENTIONS AN ENTIRE EVALUATION MAY BE SELECTED BY Merger

MERELY SPECIFYING THE LOWER LIMIT OF MAT OR ZA. THE UPPER MAT OR Merger

ZA LIMIT WILL BE SET EQUAL TO THE LOWER LIMIT, THE LOWER LIMITS OF Merger

MF/MT WILL BE 0/0 AND THE UPPER LIMITS OF MF/MT WILL BE SET TO Merger

99/999. THIS WILL CAUSE ALL SECTIONS OF A SINGLE EVALUATION TO BE Merger

SELECTED. Merger

Merger

SATISFYING SELECTION CRITERIA Merger

----------------------------- Merger

IN ORDER FOR A SECTION TO MEET THE SELECTION CRITERIA SPECIFIED Merger

BY ONE OF THE RETRIEVAL REQUESTS, EACH OF THE THREE FIELDS ( Merger

MAT/MF/MT OR ZA/MF/MT) MUST INDIVIDUALLY SATISFY THE CORRESPONDING Merger

LIMITS OF THE REQUEST. IT IS NOT SUFFICIENT THAT THE MAT OF A Merger

SECTION LIE BETWEEN THE MINIMUM AND MAXIMUM MATS OF A REQUEST. THE Merger

MF AND MT WILL ALSO BE INDIVIDUALLY COMPARED TO THE MF AND MT Merger

LIMITS OF THE REQUEST. FOR EXAMPLE, A SECTION WITH MAT/MF/MT= Merger

2500/3/2 DOES NOT SATISFY A REQUEST THAT SPECIFIES A REQUEST USING Merger

THE RANGE 2000/3/1 THROUGH 3000/3/1. THIS REQUEST SPECIFIES ALL Merger

MATERIALS WITH MAT BETWEEN 2000 AND 3000, BUT ONLY THOSE SECTIONS Merger

WITH MF/MT=3/1. SIMILARLY A REQUEST FOR 2000/3/1 THROUGH 3000/99/ Merger

999 WILL NOT SELECT ANY SECTIONS WITH MF=1 OR 2, SINCE THE Merger

REQUEST SPECIFIES ALL MATERIALS WITH MAT BETWEEN 2000 AND 3000, Merger

BUT ONLY THOSE SECTIONS WITH MF= 3, OR MORE. Merger

Merger

DUPLICATE SECTIONS Merger

------------------ Merger

IF TWO OR MORE SECTIONS WITH THE SAME MAT/MF/MT ARE FOUND EITHER Merger

ON THE SAME OR DIFFERENT TAPES, THE SECTION FROM THE TAPE DEFINED Merger

EARLIEST IN THE INPUT CARDS WILL BE COPIED TO THE FINAL TAPE AND Merger

ALL OTHER SECTIONS WITH THE SAME MAT/MF/MT WILL BE SKIPPED. THE Merger

OUTPUT REPORT WILL INDICATE WHICH SECTIONS WERE COPIED FROM WHICH Merger

TAPES, AS WELL AS WHICH SECTIONS ARE DUPLICATE AND WERE SKIPPED. Merger

Merger

REACTION INDEX Merger

-------------- Merger

THIS PROGRAM DOES NOT UPDATE THE REACTION INDEX IN MF=1, MT=451. Merger

FOR EACH MATERIAL THE PROGRAM WILL FOLLOW THE CONVENTIONS Merger

DEFINED ABOVE AND ONLY COPY ONE SECTION MF=1, MT=451 AND SKIP Merger

ALL OTHERS (IF MORE THAN ONE). THIS CONVENTION HAS BEEN ADOPTED Merger

BECAUSE MOST USERS DO NOT REQUIRE A CORRECT REACTION INDEX FOR Merger

THERE APPLICATIONS AND IT WAS NOT CONSIDERED WORTHWHILE TO INCLUDE Merger

THE OVERHEAD OF CONSTRUCTING A CORRECT REACTION INDEX IN THIS Merger

PROGRAM. HOWEVER, IF YOU REQUIRE A REACTION INDEX FOR YOUR Merger

APPLICATION AFTER RUNNING THIS PROGRAM YOU MAY USE PROGRAM Merger

DICTIN TO CREATE ONE. Merger

Merger

RETRIEVAL STATISTICS Merger

-------------------- Merger

THERE WILL ALWAYS BE AN OUTPUT REPORT LISTING INDICATING WHICH Merger

SECTIONS WHERE SELECTED, WHICH DUPLICATE SECTIONS WERE SKIPPED, Merger

WHICH TAPE THE SECTION WAS ON, WHICH REQUEST (MAT/MF/MT OR Merger

ZA/MF/MT RANGE) CAUSED THE SECTION TO BE SELECTED AND HOW MANY Merger

CARDS WERE IN THE SECTION. IN ADDITION THE USER MAY OPTIONALLY Merger

OBTAIN A FILE CONTAINING THE SAME INFORMATION. THIS FILE MAY BE Merger

COMBINED WITH OTHER SIMILAR FILES OUTPUT BY THIS PROGRAM IN ORDER Merger

TO ACCUMULATE RETRIEVAL STATISTICS OVER A PERIOD OF TIME. IF Merger

SPECIFIED THIS FILE WILL CONTAIN THE FOLLOWING INFORMATION IN Merger

6I7 FORMAT. Merger

Merger

(1) ZA Merger

(2) MAT Merger

(3) MF Merger

(4) MT Merger

(5) NUMBER OF CARDS IN SECTION Merger

(6) REQUEST NUMBER THAT CAUSED SECTION TO BE SELECTED Merger

Merger

INPUT FILES Merger

----------- Merger

UNIT DESCRIPTION Merger

---- ----------- Merger

2 INPUT CARDS (BCD - 80 CHARACTERS/RECORD) Merger

VARY FROM 1 TO 99 ENDF/B DATA FILES (BCD - 80 CHARACTERS/RECORD) Merger

Merger

OUTPUT FILES Merger

------------ Merger

UNIT DESCRIPTION Merger

---- ----------- Merger

3 OUTPUT REPORT LISTING (BCD - 120 CHARACTERS/RECORD) Merger

10 MERGED ENDF/B DATA (BCD - 80 CHARACTERS/RECORD) Merger

Merger

OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINES FILIO1 AND FILIO2) Merger

---------------------------------------------------------------- Merger

UNIT FILE NAME DESCRIPTION Merger

---- ---------- ----------- Merger

2 MERGER.INP INPUT PARAMETERS Merger

3 MERGER.LST OUTPUT LISTING Merger

11 ENDFB.OUT RETRIEVED ENDF/B DATA Merger

12 ENDFB.IN1 ENDF/B DATA TO READ...FILENAMES WILL BE DEFINED Merger

13 ENDFB.IN2 IN THE ORDER ENDFB.IN1, ENDFB.IN2,...ENDFB.I99 Merger

14 ENDFB.IN3 CORRESPONDING TO THE FIRST, SECOND,...99-TH Merger

15 ENDFB.IN4 ENDF/B DATA FILE TO READ. Merger

16 ENDFB.IN5 Merger

17 ENDFB.IN6 Merger

18 ENDFB.IN7 Merger

. Merger

. Merger

110 ENDFB.I99 Merger

Merger

INPUT CARDS Merger

----------- Merger

CARD COLUMNS FORMAT DESCRIPTION Merger

---- ------- ------ ----------- Merger

1 1-72 A72 FILENAME FOR MERGED OUTPUT. Merger

(LEAVE BLANK FOR STANDARD = ENDFB.OUT) Merger

2 1-66 16A4,A2 MERGED FILE LABEL Merger

IF BLANK - LABEL FROM FIRST FILE READ WILL Merger

BE OUTPUT Merger

67-70 I4 MERGED FILE ENDF/B NUMBER Merger

IF ZERO - NUMBER OF FIRST FILE READ WILL Merger

BE OUTPUT. Merger

71-72 I2 RETRIEVAL CRITERIA Merger

= 0 - MAT/MF/MT RANGES Merger

= 1 - ZA/MF/MT RANGES Merger

3-N 1-72 A72 FILENAME FOR FILE TO RETRIEVE DATA FROM Merger

(LEAVE BLANK FOR STANDARD..ENDFB.IN1,ETC.) Merger

TERMINATE LIST OF FILES WITH A LINE THAT Merger

SAYS END OR end Merger

VARY 1- 6 I6 LOWER PRIMARY LIMIT (MAT OR ZA) Merger

7- 8 I2 LOWER MF LIMIT Merger

9-11 I3 LOWER MT LIMIT Merger

12-17 I6 UPPER PRIMARY LIMIT (MAT OR ZA) Merger

18-19 I2 UPPER MF LIMIT Merger

20-22 I3 UPPER MT LIMIT Merger

RANGES OF MAT/MF/MT OR ZA/MF/MT TO BE Merger

RETRIEVED ARE SPECIFIED BY DEFINING Merger

ONE RANGE (LOWER AND UPPER LIMITS) PER Merger

CARD. THE USER MAY SPECIFY 0 TO 100 Merger

RANGES AND THE LIST OF REQUEST RANGES Merger

IS TERMINATED BY A BLANK CARD. IF Merger

THE FIRST CARD IS BLANK (0 REQUESTS) Merger

ALL DATA WILL BE RETRIEVED. IF THE UPPER Merger

PRIMARY CRITERIA (MAT OR ZA) IS LESS THAN Merger

THE LOWER PRIMARY CRITERIA, THE UPPER Merger

PRIMARY CRITERIA WILL BE SET EQUAL TO Merger

THE LOWER PRIMARY CRITERIA. IF THE UPPER Merger

MF OR MT LIMIT IS ZERO, OR BLANK, IT Merger

WILL BE SET TO THE MAXIMUM POSSIBLE Merger

VALUE, I.E. MF=99 OR MT=999 (SEE Merger

EXAMPLE INPUT). Merger

Merger

EXAMPLE INPUT NO. 1 Merger

------------------- Merger

MERGE ENDF/B DATA ONTO UNIT 10 FROM UNITS 11, 12, 13 AND 14. Merger

RETRIEVE DATA BY MAT NUMBER. RETRIEVE MATS 1103, 1106, ALL MATS Merger

BETWEEN 1204 AND 1215, MF=1, 3, 4 AND 5 OF MAT 1219 AND MF=3, Merger

MT=1 OF MAT 1304. USE STANDARD FILENAMES. Merger

Merger

THE FOLLOWING 13 INPUT CARDS ARE REQUIRED. Merger

Merger

ENDFB.OUT Merger

EXAMPLE FILE LABEL FOR MERGER 0 0 Merger

ENDFB.IN1 Merger

ENDFB.IN2 Merger

ENDFB.IN3 Merger

ENDFB.IN4 Merger

END Merger

1103 4317 (UPPER LIMIT SET TO 1103/99/999) Merger

1106 4317 (UPPER LIMIT SET TO 1106/99/999) Merger

1204 1215 4317 (UPPER LIMIT SET TO 1215/99/999) Merger

1219 1 1219 1 4317 (UPPER LIMIT SET TO 1219/ 1/999) Merger

1219 3 1219 5 4317 (UPPER LIMIT SET TO 1219/ 5/999) Merger

1304 3 1 1304 3 1 4317 (UPPER LIMIT COMPLETELY DEFINED) Merger

(BLANK CARD TERMINATES REQUESTS) Merger

Merger

EXAMPLE INPUT NO. 2 Merger

------------------- Merger

THE SAME AS EXAMPLE 1, EXCEPT SPECIFY FILENAMES Merger

Merger

\ENDFB6\MERGED.LIB Merger

EXAMPLE FILE LABEL FOR MERGER 0 0 Merger

ENDFB6.PART1 Merger

ENDFB6.PART2 Merger

ENDFB6.PART3 Merger

ENDFB6.PART4 Merger

END Merger

1103 4317 (UPPER LIMIT SET TO 1103/99/999) Merger

1106 4317 (UPPER LIMIT SET TO 1106/99/999) Merger

1204 1215 4317 (UPPER LIMIT SET TO 1215/99/999) Merger

1219 1 1219 1 4317 (UPPER LIMIT SET TO 1219/ 1/999) Merger

1219 3 1219 5 4317 (UPPER LIMIT SET TO 1219/ 5/999) Merger

1304 3 1 1304 3 1 4317 (UPPER LIMIT COMPLETELY DEFINED) Merger

(BLANK CARD TERMINATES REQUESTS) Merger

Merger

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