COE - NWPP DATA CONVERSION PROGRAM

PROGRAM: COENWPP95.EXE

INTRODUCTION. The COE - NWPP Data Conversion program converts rule curve data between the units and format usable by HYSSR programs and the units and format usable by Northwest Power Pool (NWPP) programs.

Critical rule curves (CRC's) may be input in either HYSSR or NWPP units and format, and converted to the other units and format. HYSSR Variable Refill Curves (VRC's) will be converted to NWPP Variable Energy Content Curves (VECC's). HYSSR Mandatory Rule Curves (MRC's) will be converted to NWPP VSMIN curves (flood control rule curves). HYSSR Assured Refill Curves (ARC's) will be converted to ARC's in NWPP units and format.

INPUT. The COE - NWPP Data Conversion program executes interactively, so the program prompts the user to enter the necessary information. The program is menu-driven, so the first screen requests that a selection be made of either:

1) Option 1 - VRC (KAF) -> VECC (KSFD draft)

2) Option 2 - NWPP (KSFD draft) -> CRC (KAF)

3) Option 3 - MRC (KAF) -> VSMIN (KSFD draft)

4) Option 4 - CRC (KAF) -> NWPP (KSFD draft)

5) Option 5 - ARC (KAF) -> NWPP (KSFD draft)

6) Return to DOS

Once an option has been selected (except Option 6 which exits the program), an input screen will appear. The screen asks for two input file names -- the file to be converted and the Study Characteristics file. This screen will also ask for the name of the file where the converted data should be written.

OUTPUT. The converted data is written to the output file. This output file's name is specified by the user on the input screen of the selected option. This input screen was described in the INPUT section above. Samples of the input data and the converted data for all of the options 1, 2, 3, and 5 are found beginning on page 3.

HYSSR FORMAT:

```
COLS 1-2    Record code = 63
COLS 8-10   HYSSR project number
COLS 19-20  Year for data
COLS 21-23  Period identifier
COLS 24-32  Data value in KAF
COLS 33-35  Period identifier
COLS 36-44  Data value in KAF
COLS 45-47  Period identifier
COLS 48-56  Data value in KAF
COLS 57-59  Period identifier
COLS 60-68  Data value in KAF
COLS 69-71  Period identifier
COLS 72-80  Data value in KAF
```

EXECUTION ON THE PC. The COENWPP95.exe file may be found in the directory $Library\HYSSR\HYSSR 2004. To execute the COE - NWPP Conversion program, have a copy of **COENWPP95.EXE** in the local **C:\HYSSR\PGM** subdirectory. Program execution requires that the Sort program, **SORTEX.EXE**, be available in the local **C:\HYSSR\SORT** subdirectory, and that three control files for the SORTEX program, **OPT1.SRT, OPT2.SRT,** and **OPT3.SRT**, be available in the local **C:\HYSSR\SORT\COENWPP** subdirectory.

The program also needs a project number cross-reference file called **C:\HYSSR\DATA\NWPPCOE.DAT.** This file contains records with the HYSSR project number in columns 8 - 10 and the corresponding NWPP project number in columns 13 - 15. The sample below has "10" in columns 1 - 2 as the record code. The record code for these records is optional.

SAMPLE RECORDS IN C:\HYSSR\DATA\NWPPCOE.DAT

```
10        3  114
10       19  120
10       31  131
10        1  142
10        2  141
10      167   12
```

Now to execute the COE - NWPP Conversion program, type **COENWPP95** while in the **C:\HYSSR\PGM** subdirectory and the program will begin execution.

SAMPLE OF **OPTION 1** INPUT AND OUTPUT

OPERATION: HYSSR VRC's in KAF to NWPP VECC in KSFD draft

INPUT: HYSSR VRC's use record code **63** and standard HYSSR format.

INPUT SAMPLE:

```
63       3        29JAN   4940.9FEB   4306.2MAR   4109.0AP1   4091.1
63       3        29APR   4087.0MAY   4149.8JUN   5318.5
63       3        30JAN   4595.1FEB   3957.8MAR   3782.0AP1   3758.8
63       3        30APR   3887.4MAY   4079.8JUN   5280.9
63       5        29JAN    905.8FEB    848.8MAR    853.9AP1    810.0
63       5        29APR    799.5MAY    881.9JUN   1178.0
63       5        30JAN    902.5FEB    844.8MAR    849.3AP1    804.8
63       5        30APR    822.7MAY    922.9JUN   1201.0
```

OUTPUT: The output is in NWPP format for FCC's.

OUTPUT FORMAT:

COL 1	Curve number (9 for FCC's)
COLS 2-5	Water year (e.g. Jan-Jul 1929 becomes 2829)
COLS 6-8	NWPP Project number
COLS 14-31	Project name
COLS 32-80	7 Data fields containing FCC's in KSFD draft

OUTPUT SAMPLE:

```
92829114    LIBBY      468.1  788.1  887.1  896.6  898.6  867.0  277.7
92930114    LIBBY      642.5  963.8 1052.4 1064.1  999.3  902.3  296.7
92829140    DUNCAN     261.7  290.5  287.9  310.0  315.3  273.8  124.5
92930140    DUNCAN     263.4  292.5  290.2  312.6  303.6  253.1  112.9
```

SAMPLE OF **OPTION 2** INPUT AND OUTPUT

OPERATION: NWPP CRC's in KSFD Draft to HYSSR CRC's in KAF content

INPUT: NWPP CRC's

INPUT FORMAT:

COL 1	Sequence number (1 or 2)**
COL 3	Curve (1 = CRC1, 2 = CRC2, 3 = CRC3, & 4 = CRC4)
COL 5	Year (1 = first year, 2 = second year, etc.)
COLS 6-8	NWPP Project number
COLS 14-31	Project name
COLS 32-80	7 Data fields containing CRC's in KSFD Draft

** If sequence number = 1 then data begins in AG1 (15 August) and continues through JAN (31 January)
If sequence number = 2 then data begins in FEB (28 February) and continues through JUL (31 July)

INPUT SAMPLE:

1	1	1131	DWORSHAK	622.0	620.1	624.6	614.8	609.4	612.1	620.1
2	1	1131	DWORSHAK	625.2	573.9	547.7	547.0	368.4	268.3	459.3
1	2	2131	DWORSHAK	540.8	620.1	627.1	630.3	641.8	624.0	632.9
2	2	2131	DWORSHAK	580.0	484.9	299.8	193.9	150.9	179.8	391.8
1	3	3131	DWORSHAK	509.1	620.1	625.9	618.8	603.4	604.1	592.0
2	3	3131	DWORSHAK	573.9	458.6	312.9	311.3	164.1	222.6	447.2
1	4	4131	DWORSHAK	535.3	620.1	627.1	632.9	631.0	628.4	625.2
2	4	4131	DWORSHAK	797.5	1016.0	1016.0	950.0	383.0	179.8	345.7

OUTPUT: The output is CRC's (record codes 42, 43, 44,& 45) in standard HYSSR format. There are no years associated with critical rule curves.

OUTPUT SAMPLE:

42	31	AG1	2234.2AUG	2238.0SEP	2229.2OCT	2248.6NOV	2259.2
42	31	DEC	2253.9JAN	2238.0FEB	2227.9MAR	2329.6AP1	2381.7
42	31	APR	2383.0MAY	2737.3JUN	2935.9JUL	2557.0	
43	31	AG1	2395.3AUG	2238.0SEP	2224.1OCT	2217.8NOV	2195.1
43	31	DEC	2230.4JAN	2212.7FEB	2317.6MAR	2506.2AP1	2873.4
43	31	APR	3083.5MAY	3168.6JUN	3111.3JUL	2690.8	
44	31	AG1	2458.3AUG	2238.0SEP	2226.6OCT	2240.7NOV	2271.2
44	31	DEC	2269.8JAN	2293.7FEB	2329.6MAR	2558.4AP1	2847.4
44	31	APR	2850.5MAY	3142.6JUN	3026.5JUL	2581.0	
45	31	AG1	2406.3AUG	2238.0SEP	2224.1OCT	2212.7NOV	2216.5
45	31	DEC	2221.6JAN	2227.9FEB	1886.2MAR	1452.8AP1	1452.8
45	31	APR	1583.7MAY	2708.3JUN	3111.3JUL	2782.4	

SAMPLE OF **OPTION 3** INPUT AND OUTPUT

OPERATION: HYSSR MRC's in KAF content to NWPP VSMIN in KSFD draft.

INPUT: HYSSR MRC's use record code 62 and standard HYSSR format.

INPUT SAMPLE:

```
62     3       AG1  5869.4AUG  5869.0SEP  5869.4OCT  5869.4NOV  5369.4
62     3       DEC  3869.4
62     3     29JAN  3662.4FEB  4172.0MAR  4847.9AP1  4816.5APR  4888.6
62     3     29MAY  5280.0JUN  5869.4JUL  5869.4
62     3     30JAN  3423.0FEB  3766.5MAR  3652.8AP1  4158.7APR  4275.8
62     3     30MAY  4776.4JUN  5869.4JUL  5869.4
62     3     31JAN  4203.5FEB  4611.7MAR  5069.8AP1  5093.9APR  5147.0
62     3     31MAY  5481.9JUN  5869.4JUL  5869.4
```

OUTPUT: The output is in NWPP format for VSMINs.

OUTPUT FORMAT:

COL 1	Curve number (1 when data has no year (cyclical) (8 when data has a year)
COL 3	7 when data has no year
COL 5	1 when data has no year
COLS 2-5	Water year for curve number 8 data
COLS 6-9	NWPP Project number
COLS 14-31	Project name
COLS 32-80	7 Data fields containing VSMINs in KSFD Draft

OUTPUT SAMPLE:

```
1 7 1114    LIBBY       0.0    0.0    0.0    0.0    0.0  252.1  1008.3
82829114    LIBBY    1112.7  855.8  515.0  530.8  494.5  292.2     0.0
82930114    LIBBY    1233.4 1060.2 1117.5  862.5  803.4  551.1     0.0
83031114    LIBBY     839.9  634.1  403.1  391.0  364.2  195.4     0.0
```

SAMPLE OF **OPTION 4** INPUT AND OUTPUT

OPERATION: HYSSR CRC's in KAF content to NWPP CRC's in KSFD Draft

INPUT: The input is HYSSR CRC's (record codes 42, 43, 44,& 45) in standard HYSSR format. There are no years associated with critical rule curves.

INPUT SAMPLE:

```
42    31       AG1  2234.2AUG  2238.0SEP  2229.2OCT  2248.6NOV  2259.2
42    31       DEC  2253.9JAN  2238.0FEB  2227.9MAR  2329.6AP1  2381.7
42    31       APR  2383.0MAY  2737.3JUN  2935.9JUL  2557.0
43    31       AG1  2395.3AUG  2238.0SEP  2224.1OCT  2217.8NOV  2195.1
43    31       DEC  2230.4JAN  2212.7FEB  2317.6MAR  2506.2AP1  2873.4
43    31       APR  3083.5MAY  3168.6JUN  3111.3JUL  2690.8
44    31       AG1  2458.3AUG  2238.0SEP  2226.6OCT  2240.7NOV  2271.2
44    31       DEC  2269.8JAN  2293.7FEB  2329.6MAR  2558.4AP1  2847.4
44    31       APR  2850.5MAY  3142.6JUN  3026.5JUL  2581.0
45    31       AG1  2406.3AUG  2238.0SEP  2224.1OCT  2212.7NOV  2216.5
45    31       DEC  2221.6JAN  2227.9FEB  1886.2MAR  1452.8AP1  1452.8
45    31       APR  1583.7MAY  2708.3JUN  3111.3JUL  2782.4
```

OUTPUT FORMAT:

COL 1	Sequence number (1 or 2)**
COL 3	Curve (1 = CRC1, 2 = CRC2, 3 = CRC3, & 4 = CRC4)
COL 5	Year (1 = first year, 2 = second year, etc.)
COLS 6-8	NWPP Project number
COLS 14-31	Project name
COLS 32-80	7 Data fields containing CRC's in KSFD Draft

** If sequence number = 1 then data begins in AG1 (15 August) and continues through JAN (31 January)
If sequence number = 2 then data begins in FEB (28 February) and continues through JUL (31 July)

OUTPUT SAMPLE:

```
1 1 1131    DWORSHAK   622.0  620.1  624.6  614.8  609.4  612.1  620.1
2 1 1131    DWORSHAK   625.2  573.9  547.7  547.0  368.4  268.3  459.3
1 2 2131    DWORSHAK   540.8  620.1  627.1  630.3  641.8  624.0  632.9
2 2 2131    DWORSHAK   580.0  484.9  299.8  193.9  150.9  179.8  391.8
1 3 3131    DWORSHAK   509.1  620.1  625.9  618.8  603.4  604.1  592.0
2 3 3131    DWORSHAK   573.9  458.6  312.9  311.3  164.1  222.6  447.2
1 4 4131    DWORSHAK   535.3  620.1  627.1  632.9  631.0  628.4  625.2
2 4 4131    DWORSHAK   797.5 1016.0 1016.0  950.0  383.0  179.8  345.7
```

SAMPLE OF **OPTION 5** INPUT AND OUTPUT

OPERATION: HYSSR ARC's in KAF to NWPP format in KSFD draft.

INPUT: HYSSR ARC's use record code **41** and standard HYSSR format.

INPUT SAMPLE:

```
41     3       JAN  4123.6FEB  4020.6MAR  3916.5AP1  3886.7APR  3882.7
41     3       MAY  4788.5JUN  5758.2JUL  5869.4AG1  4220.0AUG  4318.7
41     3       SEP  4388.1OCT  4381.5NOV  4325.2DEC  4224.3
41    31       JAN  2622.6FEB  2614.5MAR  2794.3AP1  3059.0APR  3254.8
41    31       MAY  3455.3JUN  3468.0JUL  3468.0AG1  2844.1AUG  2809.7
41    31       SEP  2751.1OCT  2716.1NOV  2698.6DEC  2648.0
```

OUTPUT: The output is in NWPP format for ARC's.

OUTPUT FORMAT:

```
COL 1       Sequence number (1 or 2)**
COL 3       Curve number (0 for ARC's)
COLS 6-8          NWPP Project number
COLS 14-31  7 Data fields containing ARC's in KSFD Draft
```

****** If sequence number = 1 then data begins in AG1 (15 August) and continues through JAN (31 January)
If sequence number = 2 then data begins in FEB (28 February) and continues through JUL (31 July)

OUTPUT SAMPLE:

```
1 0  114   LIBBY       831.5  781.8  746.8  750.1  778.5  829.4  880.2
2 0  114   LIBBY       932.1  984.6  999.6 1001.6  545.0   56.1    0.0
1 0  131   DWORSHAK    314.5  331.9  361.4  379.1  387.9  413.4  426.2
2 0  131   DWORSHAK    430.3  339.7  206.2  107.5    6.4    0.0    0.0
```