

File Formats for Oklahoma Streamflow Simulations
Revised May 24, 2007
See Revisions in **Yellow Highlight**

Note: we will use the DMIP 1 format for streamflow simulations

1. Here is the file format we need for the submitted simulations. Recall that we have requested hourly time series of simulated instantaneous discharge in Z time. The FORTRAN (in one case C/C++) statements that will generate this format are provided below.

The data files consist of 2 sections: Header with comment lines and two lines of descriptive data, and the data values themselves.

a. Header Format

Header information is necessary for identifying and managing the files.

- Comment lines: text lines (each line not more than 80 characters) that include participants name and other information a participant wants to note, such as model name, time step, type of simulation, etc. Comment lines start with an '\$' sign in the first position;

```
- First Non-Comment Header line:  
write(*,20) dtype,dimens,units,dt,id  
30 format(14X,A5,A5,A5,A5,A15)
```

```
where :  
dtype=      'SQIN ' ;  
dimens=    'L3/T ' ;  
units=     'CMS ' ;  
dt=        '1 ' ;  
id=        '<HL specified basin id>
```

```
- Second Non-Comment Header line:  
write(*,30) strt_month,strt_year,end_month, end_year,ncol,format  
30 FORMAT(I2,2X,I4,X,I2,3X,I4,X,I2,3X,A5)
```

```
where:  
    strt_month & strt_year are starting month and year of  
simulations, (MM YYYY)  
    end_month & end_year are ending month and year of simulations,  
(MM YYYY)  
    ncol=' 1';  
format='F10.3' format='F9.3'
```

Recall in the DMIP-2 Oklahoma Modeling Instructions that the beginning of the calibration period is October 1, 1996 and the end of the calibration period is September 30, 2002. The beginning of the validation period is October 1, 2002, and the end is September 30, 2006.

Participants can start their model runs whenever they want, but must submit simulated time series starting on October 1, 1996. For convenience, participants should submit simulations (calibrated and

uncalibrated) for the entire period of October 1, 1996 to September 30, 2006. HL has software that can separate the calibration period and validation period to compute statistics. HL's software can also compute statistics on individual events as well as the entire run period.

b. Data Format

Two format statements are provided for actually writing the discharge data values to the file: one in FORTRAN, the other in C/C++.

a) FORTRAN

```
WRITE(*,10) five_letter_basin_id, day, month, year, hour,
discharge
10 FORMAT(A5,5x, 3I2, I4, F9.3)
```

b) C or C++

```
fprintf("%s      %02d%02d%02d%4d%9.3f\n", five_letter_basin_id,
day,month,year,hour,discharge);
```

2. NOTES:

- a. discharge values must be in CMS (cubic meters per second)
- b. the format specification of the data must begin in column 21.
- c. Complete months of data must be present. For example, the first value in the time series must be for the first hour of the first day of the month (e.g., October 1, 1996, at 1Z). The last value in the time series must be for the last hour of the last day of the last month, (e.g., September 30, 2006 at 24Z). In order to satisfy this requirement, submitted time series should start on October 1, 1996 and end on September 30, 2006.

3. Example of the data in this format is as follows: NOTE: 'HLRMS' in the first non-comment line below is not necessary. Blanks are acceptable for the first 14 spaces in this line as specified in the Header Format specifications for this line.

```
$ Comment Line
$ Comment Line
$ Comment Line
HLRMS      SQIN L3/T CMS 1      WTT02
 9 1996  7  2000  1  F9.3
WTT02      010693  1  1.998
WTT02      010693  2  2.977
WTT02      010693  3  4.211
WTT02      010693  4  5.480
WTT02      010693  5  6.691
WTT02      010693  6  7.863
WTT02      010693  7  9.044
WTT02      010693  8 10.259
WTT02      010693  9 11.490
WTT02      010693 10 12.691
WTT02      010693 11 13.815
WTT02      010693 12 14.824
```

WTTO2	010693	13	15.709
WTTO2	010693	14	16.485
WTTO2	010693	15	17.191
WTTO2	010693	16	17.883
WTTO2	010693	17	18.628
WTTO2	010693	18	19.497
WTTO2	010693	19	20.554
WTTO2	010693	20	21.848
WTTO2	010693	21	23.400
WTTO2	010693	22	25.196
WTTO2	010693	23	27.184
WTTO2	010693	24	29.282
WTTO2	020693	1	31.389
WTTO2	020693	2	33.403
WTTO2	020693	3	35.235