

## VISCREEN Test Case Input

July 10, 2013

These are the instructions for running the VISCREEN Test case. This test case was derived from an example in Chapter 3 of the “Tutorial Package for The VISCREEN Model”, VISTUT.PDF. Other examples exist there and you are encouraged to read the Tutorial, the “Workbook for Plume Visual Impact Screening and Analysis (Revised)” and other documentation before making any serious computer runs. This test case was designed to assure you that VISCREEN is functioning properly on your Windows based Personal Computer.

VISCREEN can be run interactively or with a previously prepared input file based on values and formats in the Workbook. Below are instructions for running the program using both methods.

Part of the VISCREEN results is sent to the monitor screen. When running the program interactively, these results cannot be readily captured. However, when VISCREEN is run non-interactively, these results can be redirected to an output file. The screen redirected results can then be found in the \*.OUT output file.

VISCREEN is best run from the Command Prompt. The Command Prompt is executed by clicking on the Start button followed by clicking on My Programs | Accessories | Command Prompt.

Important: Before rerunning the test case below, you will need to rename (or delete) your output files before reusing their names.

To begin,

- 1) Download the Test Case and Executable zip files from SCRAM. Unzip the file contents into a single subdirectory (e.g., C:\Viscreen\testcase).
- 2) Bring up a Command Prompt window by following the instructions above.
- 3) Use the DOS command, cd, to change directories to where your files are located (e.g., cd \viscreen\testcase).
- 4) The Command Prompt execution line is: viscreen < testcase.inp > mytc.out
- 5) Compare MYTC.OUT, MYTC.SUM and MYTC.TST with testcase.out, testcase.sum and testcase.tst, respectively. They should both be the same with only minor differences.

To run VISCREEN test case interactively,

- 1) Follow steps in 1 and 2 above.
- 2) In a Command Prompt window, the execution line is just: VISCREEN
- 3) When running interactively, use the following highlighted responses to the non-highlighted prompts below.
- 4) After a run, compare MYTC.SUM and MYTC.TST with testcase.sum and testcase.tst, files respectively. They should both be the same with only minor differences.

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WELCOME TO PROGRAM VISCREEN! (Ver 1.01)

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Path & file name for Summary Report

(max 40 characters including file name & extension): MYTC.SUM

Path & file name for Results Output

(max 40 characters including file name & extension): MYTC.TST

Input the name of the emissions source: POWER PLANT

Input the name of the receptor (Class I area): NATIONAL PARK

Select the units of mass for emission rates--

1=gram (g); 2=kg; 3=metric tonne (mt); 4=lb; 5=ton:

Enter no. (1-5): 1

Select the units of time for emission rates--

1=sec; 2=min; 3=hr; 4=day; 5=yr:

Enter no. (1-5): 1

Input the emission rates for the following species:

Particulates (G/S ): 10.0

NOx (as NO2) (G/S ): 10.0

Do you want to use default (zero) emission

rates for primary NO2, soot, and sulfate (y/n)? Y

SUMMARY: Emissions for power plant

Particulates 10.000000 G/S

NOx (as NO2) 10.000000 G/S

Primary NO2 0.000000E+00 G/S

Soot 0.000000E+00 G/S

Primary SO4 0.000000E+00 G/S

Are these the emission rates you meant to use (y/n)? Y

Input the distance between the emissions source and

the observer (in kilometers): 25.

Input the distance between the emissions source and the  
closest Class I area boundary (in kilometers): 20.

Input the distance between the emissions source and the  
most distant Class I area boundary (in kilometers): 35.

Input the background visual range for the area (km): 150.

Do you wish to use Level-1 default parameters (y/n)? Y

SUMMARY OF ALL EMISSIONS AND METEOROLOGICAL INPUT

Emissions for power plant in G/S:

Particulate = 10.000000

NOx = 10.000000

Primary NO2 = 0.000000E+00

Soot = 0.000000E+00

Primary SO4 = 0.000000E+00

Meteorological and Ambient Data for national park

Wind speed (m/s) = 1.000000

Stability Index = 6

Visual Range (km) = 150.000000

Ozone Conc. (ppm) = 4.000000E-02

Plume Offset Angle= 11.250000degrees

Distances Between power plant  
and national park

Source-Observer = 25.000000 km

Min. Source-Class I = 20.000000 km

Max. Source-Class I = 35.000000 k

Input values ready for execution (y/n)? Y

Do you want to use the default screening threshold (y/n)? Y

The result of the questions and prompts are self-explanatory. To duplicate  
the original file outputs, the answers need to be: "Y" and/or a press of the  
"Enter" key.

\*\*\* End of Session \*\*\*

Comments and questions should be sent to us via:

<http://www.epa.gov/ttn/scram/comments.htm>