




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

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OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

MEMORANDUM

SUBJECT: Corrections to Relative Humidity Values Used in the Draft Urban-Focused Visibility Assessment, Availability of Data File Comparing Incorrect RH Data to Corrected RH Data for Atlanta and Birmingham

FROM: Philip A. Lorang, Leader   
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TO: PM NAAQS Review Docket (EPA-HQ-OAR-2007-0492)

Subsequent to the CASAC review of the Draft Urban-Focused Visibility Assessment (UVFA) document, EPA staff have identified an error in the 1-hour relative humidity (RH) values used in that assessment. This error has been corrected.

A description of the error and, in qualitative terms, the changes that are anticipated when all affected figures and tables in the draft UFVA document are corrected was included in a Memorandum to the PM NAAQS Review Docket (EPA-HQ-OAR-2007-0492), dated November 10, 2009. To briefly summarize the error, RH data were incorrectly selected for developing the visibility characterization of each study area. Instead of selecting the closest National Weather Service (NWS) station or air quality monitoring station which reported to the Air Quality System (AQS) as the source of RH data for each study area, the furthest away of the five nearest NWS stations and the five nearest AQS stations were selected.

The November 10, 2009, Memorandum to the Docket describes a large data file containing detailed corrected hourly inputs and outputs for the process of estimating current visibility conditions in the 15 study areas. This memorandum describes another data file that is being made available to the public, containing a side-by-side comparison of the incorrect RH data originally used in the assessment to the corrected data used in the revised assessment for 2 of the 15 study areas, Atlanta and Birmingham.

EPA has posted to the public website (<http://ww.epa.gov/ttn/analysis/pm.htm>) a file titled "Atlanta and Birmingham RH source data comparison.xls" (Microsoft Excel format) containing both the incorrect and correct RH data for each hour used as an input into the process of estimating current visibility conditions for Atlanta and Birmingham.

This list describes the variable names and meanings contained in the file. These variables appear in separate tables for Atlanta and Birmingham.

areaname – study area name

site – AQS ID number for the site

sdate – sample date

hr – hour of the sample date

rrh – correct RH data used in the assessment

new RH source – ID number (AQS or NWS) of the correct RH source site used in the assessment

The file contains ten columns representing each of the NWS and AQS locations that make up the five nearest NWS stations and five nearest AQS stations from which the RH source was selected. Each column has a header containing the NWS or AQS site number. If a station reported RH data for the hours listed, those RH data are listed in the column; otherwise, the column is blank. The columns are listed from left to right in order of increasing distance from the study area site. The site in the leftmost column is also identified as that of the “typical new source” (the correct site) because it represents the shortest distance to the study area site. The rightmost column is identified as that of the “typical old source” (the incorrect site) because it represents the longest distance to the study area site; this was the data erroneously used in the first assessment. The RH data from the “typical new source” column is the same as the data in the “rh” column for each sample date and hour, confirming the use of the nearest station RH data as input into the process of estimating current visibility conditions.