

US EPA ARCHIVE DOCUMENT



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July 8, 2015

By Electronic Mail

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Re: South Terminal Hourly Meteorological Data April 9 – June 17, 2015

Dear Mr. Czerniak and Ms. Cantello:

I write on behalf of KCBX Terminals Company to share with you the results of KCBX's recent calibration of its meteorological sensors pursuant to the requirements of the United States Environmental Protection Agency ("EPA")-approved "Quality Assurance Project Plan for the KCBX Terminals Company – Revision 1.1 (October 15, 2014)" ("QAPP") and subsequent meteorological data review. Under Section B5.3 of the QAPP, KCBX audits and calibrates its meteorological sensors on an alternating basis every quarter, so that an assessment—either an audit or a calibration—is performed each quarter.

The second quarter 2015 meteorological calibration was conducted at the South Terminal ("ST") on June 17th, and the results of the ST calibration were within specification with one exception. The wind direction sensor alignment relative to true north at the meteorological site was found at 13.50 degrees. Compared to the known magnetic declination value of 3.97 degrees for the area, the sensor read 9.53 degrees lower than expected. The sensor was immediately realigned to 3.50 degrees, well within the 2 degree accuracy specification for alignment with respect to the magnetic declination value for the area. See QAPP, Table B-5, ¶ 4. The sensor alignment shift was most likely caused by the movement of the worm drive clamps that secure the sensor crossarm mast mount to the pole, causing the crossarm to move approximately one inch. The clamps have been

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subjected to thermal expansion and contraction cycles during their sixteen months in the field and, as a result, were not as secure as when newly installed. Following the June 17th calibration, the clamps and other fasteners have been inspected, and tightened if needed, at both the South and North Terminal meteorological towers.

The ST wind direction sensor was last assessed during a March 19th audit. The data from March 19th through June 17th were therefore carefully reviewed, and April 9th was determined to be the most likely date for the wind direction sensor alignment shift, when several hours of high winds were recorded, including a gust of 23.7 meters per second (53 miles per hour) during the 8 PM hour. This amount of wind force would have been sufficient to move the sensor crossarm approximately 1 inch, and the wind direction corresponds to the direction of the sensor crossarm movement that created the alignment shift noted in the June 17th calibration. Based on this information, KCBX has adjusted the wind direction data recorded at the ST by adding 10 degrees to each hourly value for the period of April 9th at 20:00 through June 17th at 8:00. With this ST data adjustment, the wind direction data from the North and South Terminals track very closely from hour to hour.

Enclosed are updated hourly data files for April 5 – June 6, 2015, containing the revised wind direction data for the ST meteorological station. The ST wind direction data for June 7–13 and June 14–17 were revised prior to submission on June 23 and 30, 2015, respectively. The ST wind direction sensor alignment shift had no impact on the data reported from any other monitoring site. Consequently, no changes have been made to data other than the wind direction data for the ST meteorological station as a result of the sensor alignment shift. Please contact us should you have any questions or comments regarding this revision of ST meteorological data.

Sincerely,

/s/ Adam M. Kushner
Adam M. Kushner

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Enclosures

Cc: Eric Jones, Illinois Environmental Protection Agency