TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 28, 2019

The Honorable Adrian Garcia
Harris County Commissioner
Precinct No. 2
1001 Preston, Suite 924
Houston, Texas 77002

Dear Commissioner Garcia:

Thank you for your letter of March 22nd regarding the Deer Park air quality monitors. The Texas Commission on Environmental Quality (TCEQ) maintains a single monitoring station in Deer Park,[1] though there are several other monitoring stations near the Intercontinental Terminals Company (ITC) tank battery that erupted into flames on the morning of March 17th.

The Deer Park Station is part of a statewide network of monitoring stations and is among the 61 stations located in the Houston area. These stations vary in their capabilities. Some monitor for a single pollutant, while others gather data on multiple pollutants. The Deer Park Station is one of the most comprehensive in the network, gathering data on ozone, volatile organic compounds (VOCs), carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter.

To minimize downtime and ensure data quality, TCEQ adheres to a robust maintenance regimen. Nevertheless, data gaps are an inevitable part of normal operations. These gaps are typically caused by power outages, equipment malfunction, and routine maintenance.

In addition, all monitors are required to pass quality control (QC) checks that are performed daily, weekly, and monthly. If indicated, these checks are followed by calibration. Calibration is also required after instrument repair or adjustment. The QC checks and calibrations likewise result in data gaps.

The Deer Park Station was not shut down during the ITC fire and—for certain pollutants—gathered data continuously. Importantly, the Deer Park Station gathered data on particulate matter (PM) without interruption. PM was a pollutant of particular concern while the fire was burning and generating the thick cloud of black smoke.

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[1] For purposes of this letter, we refer to this station as the "Deer Park Station." It is otherwise known as the Houston Deer Park #2 ambient air monitoring station, AQS Code 482011039. It is designated as #2 because it replaced the original Deer Park station.

There was, however, a series of data gaps for VOCs during a period beginning March 11th and ending March 18th. These gaps began when the Station's automated gas chromatograph (autoGC) sampler malfunctioned. AutoGCs measure VOCs, including benzene, which is a chemical of significant concern—even more so, in this case, after the fire was extinguished.

TCEQ's monitoring equipment is maintained and repaired with the help of third-party contractors. TCEQ dispatched its contractor, Orsat,[2] to address the malfunctioning autoGC at the Deer Park Station. Orsat performed the necessary repairs on March 13th through the 16th.

Following such repairs, QC checks and calibrations are necessary to maintain data integrity. TCEQ's Data Quality Plan and standard operating procedures indicate a two-step protocol.[3] Step 1 is a single point calibration upon completion of any adjustment or repair. The single point calibration provides temporary data validation. It must be followed by Step 2, a multipoint calibration, after the instrument has been given time to stabilize, typically a couple of days. TCEQ procedures require:

> A single point calibration is a CVS [Calibration Verification Standard] hour that can be used to calculate a temporary RF [Response Factor] after a system change occurs. After the machine has been given a chance to stabilize, an acceptable *multipoint calibration is required*, and a final RF is set.[4]

Without Step 2, there is an unacceptable risk of data invalidation.[5] In short, an inoperable autoGC inevitably leads to data gaps for repairs as well as for calibrations.

Consistent with TCEQ procedures, Orsat completed the single point calibration (Step 1) immediately following its repair and returned the autoGC to service. The instrument continued to collect ambient VOC data for the remainder of March 16th, for the entirety of March 17th (the day the fire began), and into March 18th.

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[2] Orsat, LLC maintains the autoGC at the Deer Park Station. Orsat's owner and director is Carol Meyer. She can be reached at (877) 477-0171. The Orsat technician who performed the repairs and calibration is Heath Hinojosa. Additional information about Orsat is available at https://orsat.com/index.php.

[3] TCEQ maintains an EPA-approved data quality plan, with the cumbersome title: *State or Local Air Monitoring Stations (SLAMS)/Photochemical Assessment Monitoring Stations (PAMS)/National Core (NCore)/Border and Federally Funded Special Purpose Monitor (SPM) Quality Assurance Project Plan*. For purposes of this letter, it is called the "Data Quality Plan." TCEQ also maintains two standard operating procedures (SOPs) relevant to the maintenance of autoGCs. These are SOP DV-002-VOC and SOP FOSTAT-26. The Data Quality Plan and SOPs are included with this letter as Attachment A, Attachment B, and Attachment C, respectively.

[4] SOP DV-002-VOC at 32 (emphasis added).

[5] *See, e.g.*, SOP FOSAT-26 at 27 ("The failure of any QC samples identified in [relevant sections of the SOP] will result in data samples being invalidated by the site's data validator.").

At approximately 6:00 a.m. on Monday, March 18th, Orsat continued the protocol by performing the multipoint calibration (Step 2), thereby initiating the final data gap which is at issue here. Consistent with normal practice and a common understanding with Orsat, Orsat did not notify the TCEQ before initiating this multipoint calibration. Orsat completed the multipoint calibration at approximately 12:00 p.m. and the autoGC resumed ambient data collection for the 1:00 p.m. hour.

The multipoint calibration (Step 2) could not be postponed without contradicting our policy and putting all monitored VOC data at risk. Stated differently, a postponement could foreseeably result in the invalidation of all VOC data from the Deer Park Station for the duration of the ongoing response at the ITC facility.

Although data gaps are a regular part of operating a monitoring network, TCEQ appreciates the heightened importance of air quality monitoring data during environmental emergencies. Accordingly, we will reexamine this issue as part of our after-action review of the ITC fire with the goal of minimizing or avoiding data gaps such as the one experienced Monday morning at the Deer Park Station.

I am enclosing all documents responsive to your request.[6] If I can be of further assistance, please contact me at (512) 239-5505 or Mr. Cory Chism, Director of the TCEQ's Monitoring Division, at (512) 239-0539. Thank you again for sharing your concerns with me.

Sincerely,

Jon Niermann, Chairman
Texas Commission on Environmental Quality

cc w/o attachments:
State Senator Carol Alvarado
State Representative Mary Ann Perez
Congresswoman Sylvia Garcia, 29th District
Congresswoman Sheila Jackson Lee, 18th District
Mayor Jerry Mouton, City of Deer Park
Mayor Louis Rigby, City of La Porte
Mayor Esmeralda Moya, City of Galena Park
Mayor Ana Diaz, City of Jacinto City
Mayor Sylvester Turner, City of Houston

[6] These consist of the above-referenced Data Quality Plan and SOPs (Attachments A through C), as well as email correspondence (Attachment D) and the Operator Log Report for the Deer Park autoGC (Attachment E).