

July 27, 2012
File No. 05.0043654.00-C



Ms. Barbara Morin
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Re: Response to July 5, 2012 Letter
*Evaluation of Applicability of Air Pollution Control Regulation No. 9 – Substation
Upgrade Earthwork Activities*
Former Tidewater Facility
Pawtucket, Rhode Island

Dear Ms. Morin:

On behalf of the Narragansett Electric Company d/b/a National Grid (National Grid), GZA GeoEnvironmental, Inc. (GZA) has prepared this response to the July 5, 2012 letter from the Office of Air Resources (OAR) which included air monitoring recommendations based on OAR's review of GZA's February 13, 2012 Regulation No. 9 applicability evaluation for the proposed substation upgrade earthwork activities at the Former Tidewater Facility (Site). For ease of reference, the OAR's recommendations from the July 5, 2012 letter are provided below, followed by GZA's responses in *italics*.

- The TVOC property-line Action Level should be 0.1 ppm, rather than the 0.5 ppm level listed in the April 2011 AQMP. The 0.1 ppm level is consistent with GZA's 5 May 2011 response to OAR comments on the AQMP, which is appended to the 13 February 2012 submittal.

For air monitoring completed to date, GZA has employed a TVOC property-line Action Level of 0.1 ppm and continue to use this Action Level per RIDEM's directive. This Action Level is considered to be triggered when readings above 0.1 ppm are sustained for a period of 5 minutes, consistent with GZA's May 5, 2012 letter to Joseph Martella at RIDEM's Office of Waste Management. Please note, no sustained TVOCs readings over 0.1 ppm have been detected at the property-line during the air mentoring activities completed during the natural gas regulator station earthwork, former process pipe removal activities or PCB Performance-Based Soil Cleanup.

- The February 2012 submittal says that "all monitoring activities described in the April 2011 AQMP will be immediately reinstated "if TVOC levels exceed applicable Action Levels for a period of 5 minutes. While this is an appropriate trigger for reinstating all monitoring activities, it is important that even transient exceedances of the Action Levels are investigated to determine the source of those elevated levels and that appropriate actions be taken to prevent further exceedances.

During air monitoring activities, GZA will make note of conditions which may be contributing to any observed transient TVOC levels in excess of 0.1 ppm. Several conditions and/or activities unrelated to actual emissions from the subsurface can



result in PID readings in excess of 0.1 ppm including, earthwork equipment and/or truck/vehicle exhaust, moisture/humidity levels, precipitation, dust/dirt accumulation and temperature. GZA will maintain a record of these types of local activities and/or conditions in our field reports along with corresponding, transient PID readings. Please note that given the extremely low Action Level, there may be reasons when we cannot explain these transient occurrences.

- As noted in previous OAR comments on the AQMP, since TVOC is composed of varying mixtures of VOCs with a wide range of toxicities, it is impossible to derive an Action Level for that parameter that is based on health effects. Therefore, TVOC measurements should also be considered in a qualitative vein appropriate action to identify sources and to reduce ambient impacts should be initiated when TVOC levels in the area increase substantially or approach an Action Level, even if the Action Level is not exceeded.

We agree that TVOC measurements are considered qualitative in nature. However, we believe that the Action Level currently set for TVOCs of 0.1 ppm is extremely conservative, and as noted above, common ambient conditions (some of which are naturally occurring) may contribute to short-term, temporary readings above the threshold of 0.1 ppm. The detection limit for PIDs typically used in the industry are set at 0.1 ppm (MiniRAE 2000 and OVM 580B). In an effort to detect total VOCs below this typical detection limit, GZA employs a Photovac Model 2020 PID (or equivalent) which has detection limit of 0.01 ppm at the Tidewater site. Initiation of modifications to work practices as TVOC levels "...approach an Action Level" of 0.1 ppm is likely not feasible given the accuracy of detections below 0.1 ppm and the likelihood of interference at these low levels. Consistent with the current AQMP, GZA will initiate control measures in the event that TVOC levels are detected above the established threshold of 0.1 ppm for a period of 5 minutes or longer.

- Although OAR agrees that routine benzene measurements are not indicated for this product, a real-time benzene monitor should be available and easily accessible on the site and should be employed immediately if the TVOC Action Level is exceeded, even if that exceedance is transient. Summa canisters should also be available for timely deployment if an Action Level is exceeded for a period of 5 minutes or more.

As described previously, since the Action Level has been set at a low level of 0.1 ppm, conditions unrelated to subsurface volatile emissions including earthwork equipment and/or truck/vehicle exhaust, moisture/humidity, precipitation, dust/dirt accumulation and temperature are likely to result in transient TVOC levels above this Action Level. Given this, National Grid does not consider the significant cost associated with having the real-time benzene monitor available and Summa canisters deployed on a daily basis (on the order of \$500 per day) to respond to these types of transient conditions justifiable, particularly in light of the fact that benzene was not detected in the soil samples collected in the electrical substation area. National Grid can agree to have Summa canisters on-site for immediate deployment in the event that an Action Level is exceeded for a period of 5 minutes or more during the electrical substation upgrade work. Please let us know if the Department concurs.



We trust that this information fulfills your present needs. Please feel free to contact either of the undersigned or Michele Leone at 781-907-3651 should you have any questions.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'Margaret S. Kilpatrick'.

Margaret S. Kilpatrick, P.E.
Senior Project Manager

A handwritten signature in blue ink, appearing to read 'John P. Hartley'.

John P. Hartley
Consultant/Reviewer

A handwritten signature in blue ink, appearing to read 'James J. Clark'.

James J. Clark, P.E.
Principal

MSK/JJC:tja

cc: Joseph Martella, RIDEM
Michele Leone, National Grid