



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING DISTRICT OFFICE



C. HEIDI GREYER  
DIRECTOR

April 4, 2018

Mr. Scott Murray, VP Operations  
XG Sciences  
3101 Grand Oak Drive  
Lansing, Michigan 48911

SRN: U331801915, Ingham County

Dear Mr. Murray:

**VIOLATION NOTICE**

On March 29, 2018, the Department of Environmental Quality (DEQ), Air Quality Division (AQD), conducted an inspection of XG Sciences located at 2100 South Washington Avenue, Lansing, Michigan. The purpose of this inspection was to determine XG Science's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and to investigate a recent complaint which we received on March 28, 2018, regarding fugitive dust attributed to XG Science's operations.

During the inspection, staff observed the following:

Process Description	Rule/Permit Condition Violated	Comments
Graphite milling to produce graphene	Rule 336.1201(1)	Process was installed without a Permit to Install from the AQD.
Graphite milling to produce graphene	Rule 336.1370(1)	Collection of the air contaminants was not performed in a manner so as to minimize the introduction of contaminants to the outer air.
Graphite milling to produce graphene	Rule 336.1901(b)	Fugitive dust was of an intensity and duration to cause unreasonable interference with the comfortable enjoyment of life and property.
Graphite milling to produce graphene	Rule 336.1910	The fabric filter on the process was not maintained and operated in a satisfactory manner.

During this inspection, it was noted that XG Sciences had installed and commenced operation of unpermitted equipment (graphite milling) at this facility. The AQD staff advised XG Sciences on April 2, 2018, that this is a violation of Act 451, Rule 201.

A program for compliance may include a completed Permit to Install (PTI) application for the graphite milling process equipment. An application form is available by request, or at the following website: [www.michigan.gov/deqair](http://www.michigan.gov/deqair) (in the shaded box on the upper right-hand side of the page, "Permit to Install (PTI) Application Form").

Be advised that Rule 201 requires that a permit be obtained prior to installation, construction, operation, reconstruction, relocation, or alteration of any process or process equipment which may be a source of an air contaminant.

On March 29, 2018, during this inspection, it was also noted that black particulate was being emitted from the milling process' exhaust stack. This constitutes a violation of Rule 370, which requires that collected air contaminants be removed as necessary to maintain the equipment at the required operating efficiency, and the collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air.

Additionally, in the professional judgment of AQD staff, the dust fallout that was observed was of sufficient intensity, frequency, and duration to constitute a violation of Rule 901.

The AQD staff also observed, during the inspection, operation of the graphite milling process while the fabric filter dust collector was malfunctioning.

This constitutes a violation of Act 451, Rule 910, which requires that an air-cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the administrative rules and existing law.

Please initiate actions necessary to correct the cited violations and submit a written response to this Violation Notice by April 25, 2018, (which coincides with 21 calendar days from the date of this letter).

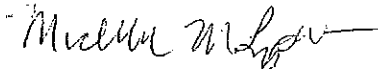
The written response should include:

- the dates the violations occurred,
- an explanation of the causes and duration of the violations,
- whether the violations are ongoing,
- a summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place,
- and what steps are being taken to prevent a reoccurrence.

If XG Sciences believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Thank you for your attention to resolving the violations cited above and for the cooperation that was extended to me during my inspection of XG Sciences. If you have any questions regarding the violations or the actions necessary to bring this facility into compliance, please contact me at the number listed below.

Sincerely,



Michelle Luplow  
Environmental Quality Analyst  
Air Quality Division  
517-284-6636

cc: Mr. Brad Myott, DEQ

cc/via e-mail: Ms. Mary Ann Dolehanty, DEQ

Mr. Craig Fitzner, DEQ

Mr. Malcolm Mead-O'Brien, DEQ

Mr. Chris Ethridge, DEQ

