SIERRA CLUB
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ATLANTIC CHAPTER

July 21, 2013

Commissioner Joseph Martens
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7015

Dear Commissioner Martens:

The Sierra Club Atlantic Chapter has reviewed the pending applications for the Hyland Solid Waste Landfill in the Town of Angelica, Allegany County, NY and appreciates the opportunity to comment. This proposal to expand the waste capacity of the Hyland Landfill by 49% brings to the forefront concerns that Sierra Club members across the state have about the environmental and health effects of radioactive shale gas drilling wastes going into solid waste landfills in New York. This concern is reflected by the more than 4,000 comment letters our members and colleagues have emailed to the Governor in the last two weeks asking the DEC to ban radioactive gas drilling waste in New York landfills.

We support the comments on the Hyland applications submitted by Attorney Gary Abraham on behalf of the Concerned Citizens of Allegany County (CCAC).

Building off of the CCAC comments Sierra Club Atlantic Chapter has four requests of the DEC:

1. We ask that a public hearing be scheduled on the Hyland applications to hear testimony on radiation exposure and other concerns. The DEC has already received thousands of public comments on the Hyland applications asking the DEC to ban the acceptance of radioactive gas drilling waste in solid waste landfills because of significant environmental and health issues. In these circumstances, a public hearing is called for. A hearing is needed for the public to present to the DEC on the significant radiation exposure issues involved.

2. We ask that the DEC conduct a new environmental review under SEQRA of impacts of Hyland's requested permit modifications. The review conducted by the DEC in the fall of 2011, as evidenced by the Negative Declaration issued by DEC as SEQRA lead agency on November 30, 2011, was insufficient. One major deficiency was the failure to address issues related to radiation exposures from oil and gas shale drilling wastes. Also, it is invalid under SEQRA to issue a Negative Declaration one and a half years before the permit applications are announced.

3. We ask that the DEC conduct a full-fledged review of radiation exposures from oil and gas development comparable to the comprehensive on-going study being conducted by the Pennsylvania Department of Environmental Protection (PA DEP). See http://www.portal.state.pa.us/portal/server.pt/community/oil___gas_related_topics/20349/radiation_protection/986697.

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4. Finally, we ask that the DEC ban the disposal of radioactive gas drilling wastes in New York landfills. At the very least, all permits to accept this waste in our landfills and waste treatment facilities, including the Hyland Landfill, should be suspended until there is a comprehensive review of the environmental and public health effects of the current policy.

Radiation Exposure Issues

The DEC is allowing solid waste and C&D landfills in New York to accept shale gas drilling waste despite the fact that the black shales that underlie New York and Pennsylvania are known to contain uranium, radium, radon and other radioactive elements.

It is our understanding that the DEC is allowing radioactive gas drilling wastes to be accepted at facilities that are not certified low-level radioactive waste landfills. This permission is granted without even requiring measurement of the radioactivity of the wastes being disposed of - on the grounds that such wastes fall within the exemption of New York's low-level radioactive waste laws and regulations for naturally occurring radioactive materials (NORM).

As the United States Environmental Protection Agency (EPA) and the PA DEP have recognized, the processes that shale gas drilling wastes undergo in drilling, treatment and transportation make it TENORM (technically enhanced naturally occurring radioactive materials). See the discussion of TENORM in oil and gas production Wastes on the EPA website at http://www.epa.gov/rpdweb00/tenorm/oilandgas.html.

The PA DEP is currently using an elaborate testing protocol to quantify TENORM in:

- Ambient air;
- Drill cuttings (vertical and horizontal);
- Natural gas;
- Natural gas processing pipes and equipment;
- Waste water generated on drilling sites;
- Sludge resulting from the processing of waste water from the well pad development process;
- Landfill leachate, radioactivity levels of flowback waters, treatment solids, drill cuttings and drilling equipment, along with the transportation, storage and disposal of drilling wastes.

The DEC must recognize that shale gas drilling wastes may constitute TENORM or processed NORM so as to bring them within New York's Low-Level Radioactive Waste Facilities Law, N.Y. Environmental Conservation Law, Article 29, and New York's regulations governing the Prevention and Control of Environmental Pollution by Radioactive Materials, 6 NYCRR Part 380, Low-Level Radioactive Waste Disposal Facilities, 6 NYCRR Part 382, and Transporters of Low-Level Radioactive Waste, 6 NYCRR Part 381. Because gas drilling wastes may contain TENORM, all such wastes must be tested for radiation and tracked.

New York has a low level radioactive waste law (LLRWL) that requires special treatment for low level radioactive wastes. The DEC has the power to change the treatment of radioactive gas drilling waste through regulation by acknowledging that shale gas drilling wastes are radioactive

and technologically enhanced and concentrated, making them ineligible for exemption to New York's LLRWL for NORM.

As is pointed out in the comments filed by CCAC, the Hyland Landfill is accepting or plans to accept wet waste streams that include drilling waste sludges, sludges from the processing of drilling wastes, and its own solidification sludges from drilling liquid wastes. (See Abraham letter, page 25.) Appendix 13 of the DEC's Revised Draft SGEIS on Hydraulic Fracturing shows that gross alpha and beta in produced brine from Marcellus wells drilled in New York have been as high as 123,000 +/- 23,480 pCi/L. Such levels of radioactivity mandate proper handling and tracking of these wastes.

We know there is pressure on landfills in New York and Pennsylvania to accept sludges and solidified flowback and produced brine. In the past 2 years alone, more that 300,000 tons of drill cuttings and thousands of barrels of fluid wastes have come across the Pennsylvania border into New York landfills. The gas industry has very few disposal options in either state because the bedrock geology is too fractured to make underground disposal wells a viable option. It is extremely costly to build treatment plants that can adequately treat the radioactivity and high salt levels of flowback from the Marcellus shale.

Pyrite Issues

Pyrite is abundant in the Marcellus Shale and in shale drill cuttings. Exposure of pyrite in drill cuttings to water and air produces an acidic, metals-rich discharge referred to as Acid Mine Discharge (AMD) and causes expansion of the pyrite. If large amounts of Marcellus drill cuttings are placed in landfills and exposed to water, they will expand over time, causing breaks in the cover of the landfill, damaging the integrity of the landfill, and leaching AMD. Pyrite decomposition issues must be considered in evaluating the deposit of shale drill cuttings in landfills.

Until the DEC has explored all the environmental and public health impacts of the tens of thousands of tons of drill cuttings, fluids, and sludges entering NY every year, all permits to accept this waste in our landfills and waste treatment facilities, including the Hyland Landfill, should be suspended if not permanently banned. New York should not be Pennsylvania's dumping ground, especially when it is New York that has demonstrated precaution when dealing with the dangers of hydraulic fracturing.

Thank you for your consideration of these comments,

Roger Downs

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Cc: Mary E Hohmann, NYSDEC Region 9

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