

## **NEWMOA Hazardous Waste Conference Call March 12, 2013**

### **Topic: CRT Glass Processing: Interpreting the Requirements & Addressing Exclusions**

#### **Disclaimer**

NEWMOA organizes regular hazardous waste monthly conference calls or webinars so its members, EPA Headquarters, and EPA Regions 1 and 2 can share information and discuss issues associated with the implementation of the Resource Conservation and Recovery Act (RCRA), compliance assistance, enforcement, and other topics. Members of the group prepare draft notes of the calls for use by those members that were unable to participate and for future reference by the participants. These notes are intended to capture general information and comments provided by the participants and are not a transcript of the call. NEWMOA provides the participants on the calls with an opportunity to review drafts of the notes prior to posting them on the members' only area of the hazardous waste page on the NEWMOA website. NEWMOA staff makes all recommended corrections to the notes prior to posting.

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#### **Participants**

Participants: CT DEEP (8 people); Maine DEP (3 people); MassDEP (2 people); NH DES (9 people); NJ DEP (3 person); NYS DEC (8 people); RI DEM (1 person); VT DEC (4 people); EPA Region 1 (3 people); EPA Headquarters (2 people); and NEWMOA (1 person).

Draft notes prepared by NJ DEP with help from NEWMOA.

Terri Goldberg began the call by addressing the plans for the next conference call scheduled for April 9, 2013. The topic will be "Electronic Monitoring of Compliance and E-submittals" with Mass DEP taking the lead and VT scheduled to take notes. MassDEP will get back to Terri regarding their ability to run the call. The following call will be on May 14 and the topic will cover "Measuring Benefits of the RCRA Program".

Terri noted that regulatory questions about cathode ray tube (CRT) glass recycling have come up in discussions among RCRA and E-waste programs. Many states have e-waste extended producer responsibility (EPR) programs and some have adopted the EPA CRT Glass exclusion in 40 CFR 261.39.

#### **Proposal for a CRT Glass Processing Facility in NYS**

Michelle Ching of NYDEC made a presentation on their review of a proposal for siting a CRT glass recycler in NYS. She began by stating that there are several issues relating to E-waste and CRT processing that all states are grappling with. She stated that the regulation of E-Waste in

New York is split between the RCRA and solid program. Michelle then addressed the agenda items starting with topic #1 “Applying CRT rule to a novel CRT glass processing process while integrating RCRA with state e-waste law and other regulatory programs (i.e., air and solid waste)”.

Michelle noted that there are several RCRA issues on which NYS DEC is working. She described how DEC is trying to apply RCRA regulations to a novel CRT glass processor’s operations, while integrating RCRA with the State e-waste law and other regulatory programs (i.e., air and solid waste), which has been challenging. (NY will provide enforcement discretion letter and link to Nulife's website and updates on the draft Commissioner's Policy to this group).

Nulife proposes to:

- Receive and store CRTs and CRT glass;
- Separate funnel and panel glass and other materials;
- Process panel glass to remove phosphor coating; sized for various applications;
- Store and process funnel glass at a site in a Nulife furnace, which they describe as an electrolytic converter. There is more process description on their website, [www.nulifeglass.com](http://www.nulifeglass.com).
- The materials from the process would be lead ingots and glass “pebbles” from which most of the lead has been extracted.

Nulife and other recyclers have surveyed a number of northeast states for possible locations. The facility is expected to process about ten tons of glass a day when built and fully operational. The operational life of the facility is expected to be about ten years.

Reviewing Nulife’s process and the applicable regulations was a team effort lead by the DEC Region 9 Office, with participation from the Albany Office. The group also consulted with EPA on the CRT rule provisions.

A different DEC Regional Office and Agency-wide e-waste team met with another company considering installing the same type of furnace as Nulife in a different DEC Region, so some Agency staff had an idea of the regulatory concerns, particularly around whether the facility could meet the air emissions limits. DEC researched whether they would need a hazardous waste Treatment, Storage, and Disposal Facility (TSDF) permit and whether there would be any siting issues. DEC asked them whether they would produce materials that were suitable feedstock materials.

Nulife’s proposed location appeared to be in a suitable area for their proposed facility. They have already obtained an agreement for low-cost hydropower, and the location was at the site of a former glass furnace.

Under the State’s regulations:

- Absent the CRT Rule, storage of CRT glass that failed TCLP would normally be subject to state hazardous waste regulations.

- DEC is considering a policy to allow use of the CRT rule in the State until it is adopted into regulation, because they had been contacted by several recyclers interested in various stages of CRT processing and anticipated that it would be at least a couple of years until they formally adopt the CRT rule. DEC received feedback from several recyclers that they would like to process CRTs but were waiting until the Agency adopts the CRT rule. DEC felt that allowing use of the CRT rule would encourage processing that would make panel glass available for beneficial use, thus cutting down the amount of CRT glass waiting for recycling. The air and solid waste regulations, including the BUD process provide safeguards for environmental protection. DEC's legal staff also felt that the CRT rule had been in effect long enough to provide the Agency and the community a higher level of confidence in it. While DEC works on a statewide policy, Executive staff issued a site-specific letter allowing use of the CRT rule until the Agency formally adopts a statewide policy or the CRT rule into regulation. DEC shared this letter prior to the call.
- CRT processing to separate the funnel and panel glass and to process the panel glass is subject to State e-waste statute, solid waste regulations, and would need to meet the CRT rule provisions.
- Beneficial Use Determinations (BUDs) would be needed for the panel glass from the furnace. Use constituting disposal and LDR considerations are important in determining the sampling and analysis requirements as well as the allowable uses for the glass products.
- Storage of CRT glass prior to entry to the furnace would be subject to the State solid waste regulations as long as the CRT rule's conditional exclusion was met.
- DEC and Nulife agreed that the furnace met the definition of a smelter under the state's air regulations and agreed to regulation as such.
- Variances from speculative accumulation are likely to be needed, so DEC feels that the facility permitting standards should provide a level of protection that would meet the criteria needed for such variances. To the extent possible, these standards were considered during the state solid waste permitting process.
- Any solid and hazardous wastes generated during the process must be handled in accordance with applicable regulations (e.g., metal, plastics, printed circuit boards, wires and circuitry, waste from process upsets, possible universal wastes, and maintenance and operational wastes that would be typically be generated from any manufacturing facility).

A state Part 360 permit has been issued, and work is being done on the BUDs. Kathy Prather in Albany and Efrat Forgette in the DEC Region 9 Office have been working on these.

For the Nulife facility, RCRA issues that DEC has worked on and continues to work on include:

- CRT Rule requirements;
- Sampling and analysis requirements;
- Legitimacy criteria for materials exiting the process;
- Proposals for uses for the glass and whether they would be considered "use constituting disposal;"
- Applicability of the LDRs to the materials exiting the processes; and
- Criteria for speculative accumulation variances.

A formal statewide Commissioner's Policy to allow use of the CRT rule is going through the approval process. It is going to the Commissioner for sign-off. DEC's next step is to publish a notice in the ENB that DEC is proposing the policy and inviting public comment (a 30 day comment period is usual). This notice could occur during the weeks of March 20 or April 27. After the public comment period, DEC needs to review the comments, prepare a responsiveness summary, and incorporate public comments as appropriate. The final policy must be approved by the programs and the commissioner. A notice will be published in the ENB when the final policy is approved by the commissioner.

Other recyclers have approached DEC regarding the possibility of building a Nulife furnace, and in the past few years, DEC has also received questions about the regulation of other processes, including chemical extraction. DEC had assistance from folks at EPA HQ and Region 2 with these issues. In particular, Marilyn Goode of EPA HQ gave very generously of her time and knowledge even while she must have been battling cancer.

#### Applicability of Use Constituting Disposal

Michelle led a discussion of the uses for panel glass that states (and EPA) have seen and/or approved, and whether there is any data available on the levels of lead, barium, and cadmium (or other TARs) in panel glass.

NYS DEC has approved use of uncontaminated panel glass in decorative glass products, and in glass insulation and has heard of uses in fluorescent lamps, manufacturing of bricks, and sandblasting media, as well as in roadbeds and other construction uses.

DES is interested in how other states handle the "placement on the land" issue for concrete or asphalt products made with CRT glass, if anyone has looked at a process like Nulife's, and if any states have different limits been set for panel glass than for glass exiting the furnace. Michelle noted that Mass DEP has shared a BUD for CRT panel glass in concrete that sets specific numbers that was very helpful.

The following is a summary of the questions and answers on these issues:

Q: What is a 360 permit in NY?

A: It is a solid waste permit that covers storage and handling of glass and residuals from recycling.

Q: Noticed that NY HW regulations are up for re-authorization, will the update include the exclusion for processed CRT glass?

A: No, that update is related to the Used Oil Rule. NY is still working on a proposal to adopt EPA's CRT rule and hopes to submit to EPA in fall 2013.

Q: So NY still regulates processed CRT glass under HW regulations, not as a UW or E-Waste.

A: Yes, it is subject to HW regulations but the proposed policy (previously provided to group) will allow NY to follow the EPA rule. NY plans to send it out for public notice by March 27, 2013.

Q: How extensive an area will Nulife be collecting CRTs from - just nearby states like CT and RI or beyond?

A: They want to cover the entire Region because they will need to generate a large stockpile since once started the furnace will run continuously.

Q: Does NY's policy include a variance from the speculative accumulation requirement?

A: Yes, there will be a variance from speculative accumulation requirements, but they must consider the volume of material required to operate the furnace and will have capacity limits?

Q: I've heard that the company's furnace in Europe does not run at full capacity, when will Nulife get its furnace up and running?

A: Not sure about company's operation in Europe, NY facility will run at ten tons per day. NY will require financial assurance for full amount of glass to be stored onsite.

Q: How much can the company accumulate onsite prior to starting up the furnace?

A: Do not have the permit application information on hand, will send out information to the group later. Company has not yet begun construction.

Q: Will the company receive residential CRT glass only or from commercial sources too?

A: Facility will be an E-Waste Collector and so will include both residential and commercial sources.

Q: CRTs collected under CT's e-waste collection program only allows residential CRTs so any of that waste would be eligible for Household Hazardous Waste (HHW) exemption.

A: NY statute requires easy and convenient collection for e-waste and so NY did not distinguish between HHW and commercial.

Q: What is the company's anticipated service area?

A: There are no planned restrictions in the permit; sources could include Canada, Ohio, anywhere at this point.

Q: Company will take from VT, NH, southern states?

A: Yes from anywhere; however, NY has large volumes of e-waste and so may not need to import from other states.

Q: Have any other states received similar applications?

A: One company contacted MassDEP about bringing in Nulife to set up on their property; but they wanted MassDEP to help fill out the application form. Is the NY site going to be set up on company-owned property or another person's property?

A: Not aware of a partner, believe that Nulife purchased the property.

A: EPA has spoken with several companies that want to conduct this activity in Phoenix and other locations.

A: CT DEP was contacted by another company associated with Nulife, but the company broke off from Nulife and went to another recycling company that uses a plasma arc technology for glass processing. This new company may compete with Nulife in NY.

Q: Is CT DEP waiting to see if the company will submit an application?

A: Yes, they looked at three locations but are waiting to get funding for project and receive preliminary approvals. Company is working with a university to develop plans.

Q: Just glass processing or would they also conduct dismantling or CRTs?

A: Would conduct both activities; plan to copy their operation in Wisconsin.

Q: Who is the company?

A: 5R processors.

**NOTE: after the call, 5R Processors notified CT that they had decided not to locate a facility in CT.**

### **Speculative Accumulation Variances and Long-term Storage Issues**

NY volunteered to provide their draft speculative accumulation fact sheet - it is "draft" because it hasn't gone through formal approval process, but it has been provided in that form to a recycler that requested guidance. This guidance is specific to CRT glass. DEC has never issued a speculative accumulation variance before. They asked if other states could share their experiences and thoughts on how to address long-term storage, speculative accumulation, and any instances of these

NY and a neighboring non-NEWMOA state have experienced issues with speculative accumulation and long term storage of crushed CRT glass. Company's operation in the neighboring state was slowing down and contacted NY about bringing in material to NY for storage prior to recycling. NY asked the company how the material would be stored to prevent migration of contaminants, how the company would assure that material would not be abandoned, and how worker safety would be addressed.

Q: Is the fact sheet (NY) on the petition for a variance from the speculative accumulation requirement completed and official?

A: No, still waiting for sign off by management.

A: In CT, no CRT processor or storage issues yet, all glass goes out of state. Whole CRTs are regulated as universal waste, processed glass is HW unless is processed to make new CRTs.

A: NH visits their CRT facility often, which currently sends glass to India for manufacturing new CRTs but that may end soon. Presently 700 tons onsite, the company wants to look at processing to make cover material (landfills). NH stated that a HW permit would be required and looking for financial assurance. Company thought material was exempt by Federal Rule (261.39), but NH indicated it is not exempt in NH.

A: Maine has one large facility (E-Waste Recycling) in Newport; ME DEP monitoring carefully, has not abandoned CRT glass yet.

### **Use Constituting Disposal and Land Disposal Restrictions**

Michelle discussed the application of LDRs to residuals and panel glass from CRT processing/recycling. NY has approved the use of recycled (crushed) panel glass for the manufacture of glass tile. Michelle has heard of uses of CRT glass, such as for fiberglass or as fill for road bed, and is concerned about whether these types of uses might represent “use constituting disposal”. NY has heard of panel glass used to make concrete block and believes this use would be subject to LDR standards even though glass may not be HW. She asked whether other states distinguishing separated panel glass from funnel glass and from post furnace glass (when evaluating potential for re-use).

Q: Panel glass tests found it to be non-hazardous, does LDR still apply since the glass was part of a CRT and the LDR applies to constituent parts (of the original waste)?

A: Yes for NY, but what are the other states interpretations?

A: NH agrees with this position (on LDRs), but NH covers the CRTs as a UW. Some states may consider intact CRTs as not waste and when panel glass is separated it would have to meet the definition of a HW for LDRs to apply.

A: MA agrees that if intact CRT is not yet waste, the separation of panel glass would be the generation point and so panel glass would have to be a HW for LDR to apply.

A: NH encountered a company that processes CRTs and adds a metal fixer to the glass fines. Since they are processing the glass, the LDR standards would apply prior to use constituting disposal.

Q: CRT is not a waste in that scenario?

A: Yes, under the Federal exclusion this process could occur, although does not apply in NH yet.

Q: Any other States (have a comment)?

A: NH has seen proposals for use (of panel glass) for cover for landfills and aggregate for drainage systems. The material meets LDR based on data NH has seen.

A: NY has issued BUDs for these activities.

A: NH does not issue BUDs but requires certain standards be met prior to these uses at these facilities.

Q: Are you talking about the RMG facility?

A: Yes, and another facility.

A: RI has not received applications for the construction of a CRT processing facility and has not encountered one to date. RI has an open enforcement case involving the stockpile of 80 tons of crushed CRT glass (panel and funnel) that was shipped from the Supreme Asset Management recovery company in New Jersey to a company named E-Lifecycle Management, LLC. The receiving facility is located in Pawtucket, RI and was not licensed to receive HW. RI has not adopted the EPA exclusion (261.39) and so the waste meets the definition of HW in RI. E-Lifecycle closed its operation, and the company’s sole proprietor filed for personal bankruptcy leaving the property owner to deal with the crushed CRT glass. RI issued at first an informal action to the operator and property owner but no progress has been made on clean up. RI would like to issue a formal action and name SAMR as an RP, but needs to determine if the 261.39 exclusion is a conditional exclusion before proceeding with case.

A: Supreme has been a problem in NJ for a while, NJ regulates CRTs as UW and has adopted CRT exclusion. Supreme needed approval for a license but renewal is pending due to problems onsite with an open enforcement action.

Q: Does anyone know if the CRT exclusion is a conditional exclusion and as such would be negated if the CRT glass was abandoned and not recycled?

A: Contact Mike Hastry (NJDEP) since he is very familiar with the Supreme case and worked with EPA Region 2 to waive RCRA violation so NJ could pursue formal case.

A: Having trouble getting SAMR to do anything to RTC, many violations remain open in NJ. NJ DAEP still negotiating with Supreme.

A: In VT, no activities with CRT glass stockpiling, no requests for BUDs. Regulate CRTs as UW and considering picking up the CRT glass exclusion.

### **Inspecting Facilities**

Michelle asked about other compliance and enforcement issues that states and EPA have seen and how they have dealt with or are dealing with. NY is wondering if other compliance issues exist and asking other states if they have encountered any. Are other states finding UW violations at CRT processing facilities like failure to remove batteries (from circuit boards)? One issue is amount of glass observed on the floor (of processing facilities).

Q: Are OSHA regulations an issue (at processing facilities)?

A: Yes, OSHA violations as well as RCRA.

Q: Any other states with e-waste processing facilities with violations?

A: In CT several facilities, not CRT processors, that handle intact CRTs with UW violations.

A: NH targeted a few e-waste facilities this year. These sites take all e-waste and NH finds the mercury (containing) devices (i.e., switches, batteries) are often mismanaged and they are finding mercury releases onsite. In addition, used oil and fluorescent tubes that get removed may cause other UW violations.

Q: The facilities in NH, are they RMG, URT and Colt?

A: Yes, also E-Waste Recycling and one other. NH requires all LQH to notify, may be more sites that are not currently in system.

A: Colt said they do not need a closure plan (to operate) in NH, this is what company told CT officials.

Q: They are a LQH and must have financial assurance and closure plan.

A: Electronic Recyclers (inspected by Mass DEP) did not find compliance issues, company analyzed all wastes, including dust and it was non-hazardous. The company has an air permit for e-waste shredding that includes bag houses. Previous locations had used oil violations and failed to submit a toxics inventory, Mass issued a low level enforcement document.

### **Additional Topics**



Q: Jumping back to the first topic, thinking about new technologies and wondering if Nulife had all of the funding required already to set up in NY?

A: Not sure about new technologies or if they have all of the funding necessary, the company was having trouble securing financial assurance instrument.

Q: Any talk (by Nulife) about how the furnace would be used after the 10 year CRT project?

A: No discussion about this activity after the CRT project. They would need to change out the refract bricks but no discussion of future plans for furnace.

Q: What level of financial assurance required (for Nulife)?

A: NYS DEC does not have exact figure, but it was significant.

Q: Can you share the figure with the group, and the SW permit (associated with the activity)?

A: Yes, will forward after call.

Terri thanked Michelle for her presentation and the participants for their questions and information. She asked everyone to review the draft notes from the February call and send her any corrections. She reminded the participants that access to NEWMOA's private webpage where the notes are posted is available to group; send her an email to request a user name and password.