Subject	AES Agremax	**Location**	Puerto Rico
Contact	George Meyer	**Phone**	212-637-4070
Department	DECA-RCB		
Last Updated	11/27/2012 11:46 AM		

Issue

The widespread land placement of Agremax may present significant environmental and health concerns due to the potential for leaching and releases of toxic heavy metals and the destruction of natural habitats. Agremax is a minimally processed, coal ash-based material comprising ash generated by the AES coal fired power plant in Guayama, Puerto Rico, and promoted as a so-called "product" ("Agremax™" www.agremax.com) under a P.R. Environmental Quality Board (EQB) solid waste exemption (but without any management controls). The environmental group Earthjustice, along with several PR environmental advocates, has urged the Region to address the disposal through use of its imminent and substantial endangerment authority under RCRA Section 7003, and the national environmental group Public Justice has issued a notice of intent to sue AES under RCRA §7002.

Current Status

In March 2012, EPA, accompanied by EQB, obtained a composite sample of recently "manufactured" Agremax stored at the AES Guayama facility. The composite sample was analyzed by an EPA-ORD contract laboratory, using a new test method developed by ORD that has since been published as an official EPA method. The analytical results were discussed in a power point presentation by ORD and gave us a clearer understanding of the heavy metals levels in Agremax under a range of pH conditions. ORD stated that "Agremax" had contaminate levels no different than observed in a "typical" coal ash. In order to better inform EPA Region 2 as to the potential threat posed by the disposal of this coal ash, ORD recommended follow-up analysis, which has been completed and confirm the initial findings.

Ex. 5 - Deliberative

Ex. 5 - Deliberative

We also spoke with former OSW director Sylvia Lowrance, who is representing AES, and have scheduled a teleconference for 12/7/12 and a face-to-face meeting on 12/12/12 to discuss implementation of engineering controls through injunctive relief via a §7003 Order. Sylvia did not dispute the necessity for these measures, and asked whether we would be amenable to future beneficial reuse of the AES coal ash. We responded that we would, given appropriate engineering controls and environmental protections were in place.

On 10/3/12, we spoke with counsel for Public Justice, a citizen's group that issued a September 2012 notice of intent to sue AES under RCRA §7002. The notice quoted heavily from the November 2011 letter from Regional Administrator Enck to EQB Chairman Nieves, and we were informed that the group would support a RCRA §7003 enforcement action by EPA prior to the 12/26/12 litigation deadline in the notice.

A November 2011 EPA letter to EQB Chairman Nieves requested reconsideration of the Resolutions and Notifications that provide the solid waste exemption for Agremax, to incorporate, among other things, risk evaluation and engineering controls. In a January 2012 reply, Chairman Nieves requested to participate in our investigation, and stated that EQB was developing draft guidance for Agremax. EPA responded in February 2012, and indicated that while it welcomed EQB involvement it remained concerned with the ongoing use of Agremax in the absence of appropriate engineering controls. EQB subsequently gave us a draft guidance document to review, and we provided comments in a July 2012 letter. George Meyer later spoke with EQB Chairman Nieves, and was informed that our comments, along with others received from the public and regulated community, were being evaluated by an independent committee and could not be reviewed by EQB until the committee's review was completed. Chairman Nieves did not, however, know when this would occur.

Interest from Elected Officials

None, although we understand that P.R. senate hearings regarding Agremax were held in February 2012, and that AES P.R. has settled a lawsuit with the government of the Dominican Republic, which alleged that AES dumped coal ash from the AES Guayama facility along several beaches, causing adverse ecological and human health effects. (It should be noted that the alleged dumping occurred prior to the EQB designation of Agremax as a "product" for use in Puerto Rico.

Options & Recommendations

Talking Points

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Background

In a September 2010 letter, representatives of the environmental group Earthjustice and a private citizen, Ms. Ruth Santiago, Esq., had requested that EPA look into the management of Agremax, stating that the relevant EQB beneficial use determination had been repealed, that Agremax had continued to be used inappropriately as fill, and that such use posed environmental threats. On this basis, they urged that EPA conduct groundwater and other monitoring. Our investigation of this issue was also supported by the Office of Resource Conservation and Recovery (coal combustion residuals rulemaking work group lead Alex Livniat, PhD). We subsequently confirmed that the EQB Resolutions and Notifications providing the Agremax solid waste exemption have

been, and remain, in effect.

In June 2011, EPA met with the coal combustion product manager for AES P.R., who informed us that the Guayama coal fired power plant mixes all of its bottom and fly ash with the spent lime from its air pollution control equipment, to produce 4,000 tons/week of Agremax. EPA accompanied several P.R. environmental advocates on site visits to ten areas where Agremax had been placed on land in the municipalities of Arroyo, Guayama, and Salinas, and observed that Agremax had been disposed in great amounts over extensive areas, some in proximity to rivers, streams, and wetlands. We met with the P.R. Department of Health to review their groundwater data, obtained from wells near the land placement sites (no exceedences observed), and spoke at length with EQB, who subsequently provided us their aquifer ground water level data (no relevant contaminant analysis). We also reviewed ground water data from the P.R. Aqueduct and Sewer Authority (no exceedences observed).

We are aware of potentially analogous damage cases documented by EPA and others, involving coal ash disposal. A 2007 EPA report “Coal Combustion Waste Damage Case Assessments” documents known damage cases from the mismanagement of coal ash (as opposed to Agremax, which is made into an aggregate by the addition of calcium oxide and water) in unlined landfills and surface impoundments and the subsequent contamination of drinking water aquifers through the leaching and ground water transport of contaminants in the ash. Of these damage cases, two EPA Orders, issued in 2003 and 2004 under the Comprehensive Environmental Response, Compensation, and Liability Act, and a subsequent 2004 citizen suit taken under Section §7002 of the Resource Conservation and Recovery Act, address aquifer and well water contamination by the leaching of toxic constituents from an unlined coal ash landfill in Pines, Indiana.

The EQB Resolutions and Notifications are based on Agremax not failing the RCRA toxicity characteristic leaching procedure (TCLP), as detailed in a 2007 study and report by the P.R. legislature. Typically, coal ash does not fail TCLP. However, EPA has concerns about its toxicity (see below paragraph). EPA has since developed four new test methods for evaluating leaching in the environment, called the leaching environmental assessment framework, or "LEAF", two of which have been published as official EPA test methods on the EPA SW-846 website, and two of which are scheduled for such publication. However, EPA has no plan to replace the regulatory uses of the TCLP (*i.e.,* to make hazardous waste determinations) with the new test methods. Rather, the LEAF tests will be used where TCLP is not required or best suited (the TCLP was designed to model leaching from hazardous waste within a landfill), in order to provide an estimate of contaminant release under various, ambient environmental conditions.

In May 2010, EPA published a proposed rule to ensure the safe disposal and management of coal ash. Under the proposed rule, the Agency would continue to promote the beneficial reuses of coal ash, in which coal combustion residuals are recycled as components of products instead of being placed in impoundments or landfills. EPA has yet to issue a final rule, and, until a decision is made, EPA's prior determination that coal ash is a solid waste remains in force. However, no RCRA regulatory requirements for coal ash management currently exist, while states may, and in many cases have, made binding regulatory determinations on appropriate coal ash management practices.

We recommend, in discussions with senior AES officials, to cover and, if possible, reach consensus on the following issues: