From: Robert.Mills@aps.com [mailto:Robert.Mills@aps.com]
Sent: Wednesday, July 30, 2008 10:37 AM
To: Mindi Cross; Veronica Garcia
Subject: Monday Meeting with Robert Mills

Dear Ms. Veronica Garcia and Ms. Mindi Cross,

Thank you for taking the time out of your schedules to discuss some of APS concerns regarding the language from the Draft Solid Waste Rules. Below is a description of some of the talking points from our meeting on Monday (7/28).

1 Discussion regarding the proposal to regulate CESQG waste streams

R18-13-600. Solid Waste Facilities Subject to Best Management Practices; Applicability
The following types of solid waste facilities are subject to best management practices and shall comply with the requirements of this Article:

4. *A solid waste facility that is used for the collection of glycol based antifreeze or CESQG waste generated off site, that has a storage capacity of 180 cubic yards or less, and that stores the antifreeze or CESQG waste for less than 90 days.*

APS submits that ADEQ considers that CESQG waste time threshold to be increased to ≥90 days instead of less than 90 days**.** **EPA Publication Number:** 530-F-95-012 "Announces EPA's intention to impose less costly requirements that adequately protect human health and the environment because risks from these facilities are relatively small" for the generation of CESQG Wastes.

As it is cited currently I believe that **R18-13-600(4)** would prove to be unnecessarily cumbersome for solid waste facilities that accept CESQG waste from off-site. As you are aware, the CESQG federal regulations cited as 40 CFR § 261.5 has no date threshold " *(a) A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month. . . (b) Except for those wastes identified in paragraphs (e), (f), (g), and (j) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under parts 262 through 266, 268, and parts 270.* Also, in statute *49-701-(29)(b)* ADEQ exempts sites which Solid Waste generated on-site is stored for ≤ 90 days and we are hopeful that this type of exemption would be applied to CESQG waste.

- *APS submits a practical alternative to read* **R18-13-600(4)** *A solid waste facility that is used for the collection of glycol based antifreeze or CESQG waste generated off site, that has a storage capacity of 180 cubic yards of*

aggregated solid waste or less, and that stores the antifreeze and CESQG waste for more than 90 days. This would give facilities accepting CESQG waste generated from off-site more flexibility as the EPA intended to provide which is necessary to consolidate waste streams, thus giving the intended waste cost efficiency since it is considered by the EPA to be relatively low risk .

2 Discussion of the definition of "On site"

49.701(22). "On site" means the same or geographically contiguous property that may be divided by public or private right-of-way if the entrance and exit between the properties are at a crossroads intersection and access is by crossing the right-of-way and not by traveling along the right-of-way. Noncontiguous properties that are owned by the same person and connected by a right-of-way that is controlled by that person and to which the public does not have access are deemed on site property. (You indicated that APS controlled Substations are defined as on-site when the wastes are hauled to APS Service Centers). Noncontiguous properties that are owned or operated by the same person regardless of right-of-way control are also deemed on site property. (You indicated that APS field generated wastes from an equipment change-out are considered on-site for this part of the definition). Can you provide a written regulatory interpretation or other documentation to support this so we can add it to our files.

3 Discussion regarding the proposed requirements for "Waste to energy facilities cited as R18-13-714

ADEQ is proposing that "Waste to energy facility" means a facility whose principal function is to convert, combust, or otherwise process solid waste by incineration, pyrolysis, destructive distillation, or gasification, or to chemically or biologically process solid wastes, for the purpose of synthetic fuel production or energy recovery. "Incinerator" means **an** enclosed unit that burns solid waste without energy recovery.

Arizona Public Service (APS) is funding some agriculture research in collaboration with the University of Arizona (UA) and Northern Arizona University (NAU) regarding the application of small portable pyrolysis waste-to-energy systems in farm and forest communities. APS is in process of having a small ½ ton per day pilot unit built and modified in Canada. Performance testing will be finished and the unit shipped to the UA Agriculture Research Center near the town of Red Rock after receipt of the Pinal County Air Permit.

Farm and forest wastes have extremely low value and energy densities. The material can only be moved short distances for conversion into higher value products. Small 10-50 ton per day pyrolysis systems can be moved every couple of months from field to field or

feedlot and/or forest depending on the seasonal crop cycles and waste conversion opportunities. Pyrolysis products include oils and a char material. Testing in other locations has indicated there could be multiple potential benefits to be derived from these products.

The vision shared by APS, UA, NAU, US Forest Service and several other groups consists of a multiple win-win if this technology is proven and the products turn out to be as beneficial as expected. Essential oils can be derived from the dryer condensate waste water. The pyrolysis char can be cofired in power plants to help meet the renewable energy mandate. But it also has the potential to be used as a fertilizer supplement. Benefits cited in other parts of the country include reduced water used per crop cycle. Also reduced need for nitrate based fertilizers. A reduction in nitrate fertilizer has the potential to reduce nitrate pollution of the aquifer and less nitric oxide air emissions. The Pyrolysis oil has three distinct phases consisting of organic acids with water, cellulosic oils that can be converted into a bio-diesel fuel, and lignisic oils that can be processed into chemical feedstocks, co-fired in power plants or gasified into a hydrogen rich gas for conversion thru a Fisher Tropsch catalyst system. We envision ten or more pyrolysis units in operation around the state converting their local waste materials into farm and energy products. The Forest Service, State Land Dept, Farm Co-Ops, CAFO Associations, large individual dairy's, orchards and other farm operations would own, operate and/or lease portable pyrolysis systems to be set up, operated and then moved every 2-3 months as needed. Over time it is felt that a centrally located manufacturing plant would be established to convert the raw pyrolysis oils and/or char into finished high-value products.

APS believes that it would be prudent to request an exemption that covers small waste to energy operations as described above.

Respectfully,

Robert Mills

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