UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 8 2005

MEMORANDUM

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

SUBJECT: Status of Brine Residue from EMIT Process

FROM: Matthew Hale, Director
Office of Solid Waste

TO: Stephen S. Tuber
Assistant Regional Administrator, Region VIII
Office of Partnerships and Regional Assistance

On August 4, 2004, you provided an opinion to Bill Courtney of EMIT Water Discharge and to the Wyoming DEQ regarding the regulatory status of brine residue from EMIT's technology for treating produced water from coal bed methane extraction. I'm writing to clarify EPA's view, in light of developments in the EMIT technology, as currently applied in the field, and further review of the issue by OSWER.

As you are aware, the EMIT technology is one of several technologies currently available or under development for treating produced water from coal bed methane extraction. In the EMIT process, produced water is treated through a cation-exchange system. Periodically, an acid is used to treat and regenerate resin in the system, producing a spent brine with a low pH (below the RCRA characteristic level). At a recent meeting in Denver with key oil and gas producers, industry members explained to us that the EMIT system (as currently operated) now includes a step in which the acidic brine is directly piped to a tank where it is neutralized to a pH of 4 or 5, before it exits from the overall treatment process. According to the industry representatives, the brine is then sent for disposal in a Class I non-hazardous waste injection well.

In your earlier letter to Bill Courtney, you addressed the regulatory status of the spent brine under RCRA in the absence of the neutralization step. (At the time you wrote the letter, it wasn't clear that the EMIT technology would include the neutralization step.) In your letter, you offered the opinion that the residual brine (and spent acid) would be a RCRA hazardous waste, if it exhibited a hazardous characteristic (in this case, corrosivity). Under the current configuration of the EMIT technology, however, this question is moot, in our view. That is, as long as the residual brine/spent acid combination is sent from the cation-exchange system to a tank (or other elementary neutralization unit) and neutralized as part of the overall treatment process so that it does not exhibit the RCRA characteristic of corrosivity, and as long as the treated residue is handled in Class I non-hazardous waste injection wells, the process or the waste material is not subject to any RCRA subtitle C regulatory requirements.

I appreciate your attention and your staff's attention to this issue. If you have any questions on this clarification, please let me or Lillian Bagus (703-308-8474) know.

Attachment