

## **EEG RESPONSE TO NAS WIPP COMMITTEE QUESTIONS FOR MAY 19, 2003 MEETING**

The EEG has made three presentations and submitted two written statements to the current Committee on a number of aspects of the CH-TRU waste characterization issue (EEG statements and comments are available on the EEG webpage at: <http://www.eeg.org/EEGsite.nsf/Statements?OpenPage>). A number of our statements, as well as our general philosophy, relate to the latest questions. Therefore, most of our responses to the questions will be briefly summarized.

The general philosophy that we apply to evaluations of all waste characterization issues was stated in our October 29, 2002 statement to the Committee:

- (1) We believe overall waste characterization requirements are excessive. However, any proposed relaxation needs to be evaluated in sufficient detail to convince regulators, EEG, and stakeholders that the modification is justified.

Implicit in this statement is the belief that any changes need to be made in a step-by-step approach and through existing regulatory procedures of NMED, EPA, and NRC. This approach requires adequate justification and has worked effectively to get approval for a number of changes from all three regulators.

Our conclusions on individual waste characterization requirements are based on health and safety, and environmental considerations. We do not presume to speak for the regulators in offering opinions of legal and regulatory requirements.

- (2) Since EEG has concluded that the radiological risk is about 10,000 times that of the hazardous waste risk we concentrate on those waste characterization requirements that affect the transuranic waste during our health and safety evaluations.

However, it needs to be kept in mind that a number of the requirements in the Hazardous Waste Facility Permit (HWFP) have a role in ensuring that radiological and transportation requirements are met. For example, there are requirements that ensure a stable waste form (minimal residual liquids and limits on sealed containers, no pyrophoric radioactive materials, no incompatible chemical materials, no explosives, no corrosives, and no compressed gases). Also: (a) EPA requirements for cellulose, plastics, and rubber are determined from Real Time Radiography or visual examination, (b) HSG data are useful for ensuring that flammable gas limits are not exceeded, and (c) acceptable knowledge is necessary for both transportation and radiological characterization.

- (3) The relaxation of audit requirements and QA/QC is not an appropriate way to reduce the regulatory burden.

**Question #1: What is the connection between the HSG (Headspace Gas) requirements and protection of public health and the environment?**

One purpose of HSG measurements is to ensure that the room-based concentration limits (RBCLs) of

volatile organic compounds (which were set to control the risk to off-site individuals during operation) are not exceeded. RBCLs can be controlled either by appropriate (not necessarily 100%) HSG sampling of individual containers or by the confirmatory VOC monitoring plan at WIPP.

A comprehensive HSG sampling program is also the most direct means of ensuring compliance with the flammable gas concentration limits for transportation that are included in the TRAMPAC. Although the TRAMPAC does not explicitly require HSG sampling, it will be necessary in some cases to ensure compliance.

HSG sampling is the primary way DOE has chosen to meet the “detailed chemical analysis... of a representative sample of the waste” that is specified in the New Mexico Administrative Code. This information is used (in conjunction with acceptable knowledge) to assign hazardous waste numbers to each waste container. However, EEG is not aware that these hazardous waste numbers are used to exclude waste from WIPP or to otherwise control the hazardous waste. These data probably provide an incidental benefit to confirming AK and ensuring that the various Waste Acceptance Criteria (WAC) requirements that address waste stability are met.

EEG believes that it is desirable to maintain a comprehensive HSG program for WIPP CH-TRU wastes. However, it should be possible to require less than 100% sampling in some cases. This determination needs to be made on small batches or waste streams where there is reason to believe relative uniformity exists. Also, the detailed approach necessary to ensure that representative data is still obtained needs to be justified by a proposed modification request (PMR) to the HWFP in the same manner that existing PMRs are justified.

**Question #2: With respect to the AMWTF (Advanced Mixed Waste Treatment Facility): Why is HSG sampling necessary after contents have been repackaged with all prohibited items removed and the super compaction has occurred? Is there going to be any headspace gas left?**

Prohibited items do not necessarily contain the VOCs that are analyzed for. Also, even if all headspace gas were to escape at the time of compaction, any VOCs present in the waste would continue to emanate and become HSG in the 100 gallon drum and be evaluated when the HSG is sampled after the DAC (Drum Age Criteria) has been satisfied. So, there is as much reason to take HSG samples from AMWTF waste after compaction as there is for other wastes.

**Question #3: Is it possible to have a modified set of HWFP characterization requirements for the AMWTF, given the differences in the characterization plans?**

It is possible that some modifications to the current waste characterization requirements could be justified for the AMWTF. Changes should be proposed through the current regulatory procedures with sufficient justification.

It should be noted that there are several different treatment processes at the AMWTF. Figure 1 of BNFL-5232-RPT-TRUW-02 estimates that 30% of the waste will be non debris waste (organic and inorganic sludges) which will be shipped directly with no treatment other than repackaging. Fifty-two percent of the waste is expected to be boxes which will be opened, sorted, repackaged into 55-gallon

drums and compacted into pucks to be placed in 100-gallon puck drums. About 14% of waste will be in 55-gallon drums that will be compacted without visual examination. Another 4% of the waste is expected to be in 55-gallon drums that will be visually inspected, sorted and repackaged before compaction. It is apparent that these different process flows would have to be considered separately when proposing modifications to waste characterization requirements.

A fourth question was also asked about the HWFP in general: "We have a collage of characterization requirements that was posted up over two decades. We now have some experience (although not always representative of future scenarios), both in operations and regulation. How do we codify to only what is necessary and sufficient (which would include a safety margin) for both public health and worker exposure?"

We believe modifying the HWFP is best done in the future as it is being done now; i.e. by step-by-step PMRs with adequate justification. The question correctly recognizes that there needs to be a safety margin and that future scenarios (specifically, much different waste streams) need to be kept in mind.