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APR 1 1998

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352



Dear Mr. Sherwood:

RESPONSE TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) COMMENTS ON THE ENVIRONMENTAL RESTORATION DISPOSAL FACILITY (ERDF) WASTE ACCEPTANCE CRITERIA, REV. 3, DRAFT C

Attached are responses to EPA's comments on BHI-00139, ERDF Waste Acceptance Criteria, Revision 3, Draft C.

Please direct any questions concerning the responses to me at 373-6295.

Sincerely,

O. C. Robertson, Senior Project Manager
Remedial Action Project

RAP:OCR

Attachment

cc w/attach:
P. S. Innis, EPA

**Responses to EPA Comments on the
Environmental Restoration Disposal Facility
Waste Acceptance Criteria, Rev. 3, Draft C**

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Introduction

The U.S. Environmental Protection Agency (EPA) has completed the review of the Environmental Restoration Disposal Facility (ERDF) Waste Acceptance Criteria (BHI-00139, Rev. 3, Draft C), dated November 1997. The review focused on compliance with the Resource Conservation and Recovery Act (RCRA), the Washington Administrative Code (WAC)173-303, and other ARAR specified in the ERDF Record of Decision.

General Comment

A fundamental shortcoming of the draft Waste Acceptance Criteria is that it appears to develop waste acceptance criteria and numerical values without a clear tie-in to the governing site-specific RODs, the ERDF ROD and the ERDF ESD. In particular, these documents clearly (though in general terms) identify waste source categories and physical characteristics (e.g., debris, environmental media) associated with remedial wastes eligible for disposal in ERDF. The Waste Acceptance Criteria should clearly state that these site-specific requirements must be met first, followed by the numerical criteria proposed in the current draft. Viewed another way, numeric criteria are necessary, but not sufficient elements for evaluating waste acceptance.

The draft Waste Acceptance Criteria is strengthened by the discussion of roles of ERDF ERC personnel, ERDF subcontractors and ERDF users. Although somewhat beyond the scope of a typical waste acceptance criteria document, this discussion is quite important in the context of Hanford's complex organizational structure and cleanup projects. The Waste Acceptance Criteria should further expand this section to discuss the interrelationships between these groups as they relate to making appropriate cleanup and waste management decisions. For example, ERDF ERC and subcontractors should have a role in communicating exceedances of Waste Acceptance Criteria parameters to ERDF users and assisting users in identifying any systematic waste characterization issues that may exist at RA sites. Similarly, ERDF users have a responsibility to raise waste characterization, sampling, and treatment issues with ERDF ERC personnel early in development of remedial action plans to insure adequate disposal capacity is available in a timely fashion. ERDF and generating operable units should function together as a cohesive environmental response system, not independently in a disconnected manner. This "systems" view should be reflected in the respective responsibility descriptions. Further details of particular sections reflecting this issue can be found below.

The Phase IV LDR rule for RCRA may be issued some time within the next year. It is anticipated that this rule will have some impacts on the ERDF Waste Acceptance Criteria but the breadth of those impacts is not clear at this time. In particular, EPA expects that this rule will

numerically lower the treatment levels applicable to TC metal wastes, and require that universal treatment standards including organics be met for these characteristic wastes. DOE, EPA and Ecology will likely need to open discussions after the rule is finalized. It is envisioned that a revision of the ERDF Waste Acceptance Criteria may be necessary.

The section entitled "Concentrations Limits" (Section 4.2) is somewhat confusing to apply, especially when examining the standards specified in Table 2 and Table 3. A clear description of how users of the Waste Acceptance Criteria document should use waste characterization data (waste code, constituents) in conjunction with Tables 2 and 3 to derive numerical waste acceptance limits. A flow chart and/or step-by-step text description of the process for determining whether waste is acceptable for waste disposal may rectify this, and should be included.

Response: See responses to specific comments provided below.

Specific Comments

Section 1.0, page 1. The introduction section should continue by referencing the ERDF Explanation of Significant Differences (ESD) which further explains the type of waste which may be received at the ERDF. The fundamental limitations specified in the ESD should be reiterated in the criteria concerning sources of the waste.

Response: Accept

Section 1.2, page 1. It should also be noted that the ERDF design satisfies TSCA requirements.

Response: Accept

Section 2.0, page 2. An agreement between EPA and the Washington State Department of Ecology has been developed for a single regulator approach for management of projects. Delete the reference to Ecology as the support agency.

Response: Accept

Section 2.1.1, page 2. A distinction is made between the ERC Personnel assigned to ERDF and ERDF Users (Section 2.2). It is not clear how ERC personnel are integrated between the remedial action and waste disposal operations. This is key to the waste acceptance at ERDF since this must function as an integrated waste management system. Without such integration, the ERDF would function as a separate disposal facility from the generators of the waste and it would appear that independent verification of waste shipment may be necessary.

Response: The ERC is integrated under one contract with a procedural system in place to ensure coordination across the project. This system is described under Section 3.0, implementation of

this system has negated the need for independent verification at ERDF since waste is profiled, continuously monitored and further characterized at the remedial action and demolition sites. A summary of the checks and balances system in place to ensure coordination between the users and ERDF will be added to Section 2.1.

Section 2.1.1, page 2. The second bullet should continue as follows: “. . . environmental regulations as set forth in this document, the ERDF ROD, and subsequent modifications to the ROD.”

Response: Accept

Section 2.1.1, page 2. The last bullet, concerning audit/surveillance activities, leaves some concerns in that it appears that corrective actions are more of a reaction to documented deficiencies rather than an ongoing process. ERC personnel should insure that a pro-active program is in place to provide a high degree of confidence that deficiencies that may occur are identified in a timely manner, and that appropriate corrective actions are initiated.

Response: Accept. Wording will be added to emphasize that QA/QC oversight, self assessments and audits are part of the routine activities of the ER project.

Section 2.1. It is also expected that ERDF ERC personnel or the ERDF subcontractor would perform periodic inspections or audits of the remedial action and decontamination/decommissioning sites to verify that waste shipments and incoming waste containers correspond to waste shipment papers and profiles, and that underlying waste characterizations remain valid or are appropriately updated during the course of waste generation activities.

Response: Such inspections are periodically performed, primarily when specific waste types or forms require an increased need for close coordination. As indicated above, the ER Project performs oversight, self assessments and audits as part of the routine activities.

Section 2.2, page 3. Additional responsibilities of the ERDF users are as follows:

- Develop and implement a sampling and analysis plan approved by the lead regulatory agency
- Evaluate treatment options
- Ensure ERDF considerations are fully evaluated during the RD/RA process

Response: Accept as modified. Note that the second bullet will include wording such as “when applicable.” The third bullet will eliminate the term “fully” since considerably more information would be needed to define the meaning. The Projects consider disposal alternatives during the planning stages. Regular planning meetings are conducted between the users and ERDF.

Section 3.1.1, page 4. The overall project schedule should also include the following:

- Treatment to be performed at ERDF

- Listed waste potential

Response: Waste identification and treatment potential are often difficult or impossible to predict in advance. A contingency will be added to the schedule when such conditions are reasonably expected to occur or have been previously identified. Characteristic hazardous waste requiring treatment are not usually identified until such waste is encountered and characterized.

Section 3.2.1, page 4. Waste characterization must take into account the data quality objectives for site specific information with respect to waste disposal. It may be beneficial to develop some generic DQOs for waste acceptance/disposal to assure that consistency is maintained on the various sites.

Response: As described in the WAC, various methods are acceptable to profile waste destined for ERDF including process knowledge, historical information, and field screening. Sampling and Analysis Plans are developed using the DQO process which are approved by the regulatory agencies. Procedures are in place to address the ERDF WAC (BHI-EE-10, Section 5.0, *Waste Disposal*), DQO (BHI-EE-01, Sections 1.2, *Data Quality Objectives*, and 1.15, *Sampling Documents*) and SAP (BHI-EE-01, Section 1.15, *Sampling Documents*) criteria.

Section 3.2.1.2, page 5. The waste certification for dangerous/hazardous waste should be performed in a three-step process: 1) determine if the waste is dangerous/ hazardous; 2) determine if the waste is a prohibited waste; and 3) determine if the waste satisfies the treatment standards.

Response: Accept.

The last sentence of the paragraph should specify approval of waivers or variance by EPA or Ecology.

Response: Accept.

Section 3.2.3, page 5. It should be assured that the ERDF users develop and reference DQOs in the verification program with the end point of verifying that the waste is appropriate for disposal.

Response: Accept.

The second paragraph should reflect the discussions and recommendations/agreements made at the June 25, 1997 meeting. It is essential that a waste profile be revised only after a reevaluation of the assumptions used for the sampling of the waste site.

Response: Accept.

This section specifically notes that for small waste streams, characterization and verification

activities may consist of a single event. This section should also specify that an essential element of waste characterization is an evaluation of waste stream variability. Waste streams with known or possible significant variability (with respect to waste designation and waste acceptance criteria) should be reevaluated at a frequency reflective of the anticipated variability.

Response: The small waste stream refers to streams such as a single drum (or several drums from the same stream) or very small sites (e.g., spill site) and not a stream where variability would be expected. Clarification language will be added.

Section 3.4.1, page 7. The discussion in this section of responses to noncompliance wastes is incomplete and insufficient. In addition to steps outlined in this section for short-term management of noncompliant wastes, further long-term steps should be taken to determine the underlying cause of waste acceptance criteria noncompliance, and to initiate appropriate corrective action. One key environmental concern in this area is that noncompliant wastes identified at ERDF may reflect underlying errors in waste characterization or changes in waste streams that require changing or updating waste profiles at the generating operable unit. Section 3.4.1 should specify what steps will be initiated by ERDF personnel and users to identify and remedy underlying causes of noncompliance.

Response: A reference will be added to the WAC requiring the use of BHI-MA-02, Procedure 2.4, "Root Cause Analysis" for such instances where noncompliant waste may be received at ERDF.

Section 4.0, page 7. It should be noted in first sentence that the "ERDF is authorized . . . activities consistent with the ERDF ROD and the ESD."

Response: Accept.

Section 4.1, page 7. Again, it should be noted that the authorizing basis for ERDF waste acceptance is the ERDF ROD, ESD and ROD Amendment.

Response: Accept.

Section 4.1.2, page 8. The last sentence in this section is somewhat confusing. The evaluation of the chemical constituents may show that they are chemically equivalent to those constituents evaluated in the compatibility report referenced in the previous paragraph. If the constituents lie outside the information in the report then actual application of the prescribed method may be necessary. Also, it is recommended to change the language from "does not have a damaging effect on the liner material" to "is compatible with the liner material." Definitions of what "a damaging effect" actually is may be somewhat open.

Response: Accept. The sentence is intended to describe a process as noted in the comment. The sentence will be modified as indicated.

Section 4.1.4, page 8 and 9. This section does not clearly address the need to evaluate underlying hazardous constituents listed in 40 CFR §268.48, Universal Treatment Standards (UTS). These standards are applicable to most characteristic waste. For listed waste it is only necessary to analyze for the regulated hazardous constituents in the wastes that are being treated. For characteristic wastes, the RA sites must analyze for UTS constituents which “*can reasonably be expected to be present at the point of generation of the hazardous waste.*” (40 CFR §268.2(i)). It would be appropriate to include the UTS tables as, perhaps, an appendix to the Waste Acceptance Criteria.

Response: Table 3 of the WAC cites to use of UTS when appropriate. A reference to the UTS regulatory citation will be added as a footnote.

Section 4.1.4, page 8 and 9. The last sentence of the second paragraph is misleading. If the waste that is treated is a listed waste, then the listing code still applies, except if the waste is a debris and a destruction/removal technology has been applied pursuant to 268.45.

Response: Accept, the language will be modified.

Section 4.1.4, page 8 and 9. Delete the reference to a corrective action management unit noted in the third paragraph.

Response: Accept.

Section 4.2.1, page 9. Provide a reference of the regulation that allows for the determination of an “integrated inventory concentration.”

Response: The integrated inventory approach is part of DOE policy and is described in DOE/LLW-157, Revision 1, *Performance Assessment Task Team Progress Report*. The method is applicable to a waste package, waste site, or a disposal unit. The ERDF Remedial Investigation and Feasible Study, and Performance Assessment used a similar method to establish risk and acceptance levels. However, in accordance with 10 CFR 61 the WAC language will be modified to indicate that averaging over the contents of a waste package is acceptable, provided the resulting concentration is below the Class C limits. Other instances of applying the inventory average over the waste site or ERDF trench will be considered on a case-by-case basis.

Section 4.2.2, page 10. See general comment 2.

Response: Accept. The section will be modified and/or a process flow chart will be added.

Section 4.3.3, page 18. It would be valuable to include the definition of debris as an introduction to this section as well as the exclusions specified in 40 CFR §268.2(g).

Response: Accept. The definition of debris from the definition section will be added to the text.

Section 4.3.3, page 18. The first sentence of the second bullet should be carried further to note that debris may comply with the standards specified under 40 CFR §268.45 or the otherwise applicable LDR treatment standard.

Response: Accept.

Section 4.3.3, page 18. It should also be further clarified that mixtures containing more than one type of debris, or more than one contaminant, have to be treated to meet the standards for each contaminant and each type of debris.

Response: Accept.

Section 4.3.3, page 18. An additional option for debris is to manage the hazardous debris in accordance with the “contained-in” policy pursuant to 40 CFR 261.3(f)(2) and WAC . Please note that this is not a self-implementing provision, but requires a determination by the Administrator.

Response: Accept.