

US EPA ARCHIVE DOCUMENT

**COMMENT-RESPONSE DOCUMENT OF PUBLIC COMMENTS ON  
WASTE ANALYSIS PLAN (WAP) GUIDANCE -  
SECOND ROUND OF COMMENTS**

**Office of Resource Conservation and Recovery  
U.S. Environmental Protection Agency**

**March 31, 2015**

## I. Background and Purpose of Document

### I.1 Background

The U.S. Environmental Protection Agency (EPA) has been collaborating with a Work Group of EPA and state personnel to review, modify and update the EPA guidance, “Waste Analysis at Facilities that Generate, Treat, Store and Dispose of Hazardous Waste: A Guidance Manual” (also called the “WAP guidance”). The manual, developed in 1994, is used to provide guidance on how to develop and implement a Waste Analysis Plan (WAP) suitable for managing hazardous wastes in accordance with the Resource Conservation and Recovery Act (RCRA), assist federal and state permit writers in evaluating submitted WAPs, and assist enforcement personnel in determining whether a facility is in compliance with their testing requirements.

After completing our revisions in January 2013, EPA sent the revised guidance around for public comment through e-mails to operating TSDFs, state/regional permit writers, various trade associations and environmental groups, and through the EJ list serv.

In total, EPA received 27 submissions on the revised WAP guidance during the public comment period, which ended June 14, 2013. These submissions (e.g., letters, emails) offered more than 400 suggestions, concerns and other comments on the guidance.

EPA completed our second revisions in mid 2014 and sent the manual around for a second round of public comments. We asked for input on only the four issues below, which were the focus of our recent revisions:

- Does Part 2 of the guidance clearly distinguish between mandatory versus recommended elements of a WAP?
- Does the guidance describe RCRA sampling frequency and procedures sufficiently (e.g., see Sections 1.2, 2.4 and 2.5)?
- Does the guidance discuss and distinguish between generator and TSDF requirements sufficiently?
- Does the guidance describe the relationship between CAA FAP and RCRA WAP requirements accurately (see Sections 2.4.4 and 2.9.2 and Appendix D)?

In total, we received 12 submissions during this second comment round, which ended August 24, 2014.<sup>1</sup> The submissions included about 100 suggestions, concerns and other comments on the guidance.

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<sup>1</sup> One of the submissions did not include any comments. Hence, this document summarizes the comments of 11 submissions.

## I.2 Purpose of Document

This document presents a summary of the comments received during the second round of comments, organized by issue. In each summary, we indicate the number of organizations whose comments are reflected in it. We also identify the organizations. To do so, we assigned each organization a unique commenter number. We then prepared the summaries and inserted commenter numbers into each summary to identify the organizations whose comments are reflected in it. A table at the end of this document provides the name of each organization that commented on the notice and its commenter number. This document also provides the Agency's response to each comment. The responses clarify how the comments were addressed in finalizing the guidance. Summaries and responses are presented in Section II of this document.

## II. Comment Summaries and Responses

### II.1 Does Part 2 of the guidance clearly distinguish between mandatory versus recommended elements of a WAP?

**Comment:** We heard from three commenters that the revised guidance (or parts of it) clearly distinguishes between mandatory versus recommended elements of the WAP (Commenter Nos. 2, 4, 11). One of these commenters stated its belief that the red highlighting in the text box on page 2-3 makes it easy to distinguish which elements are required and which are recommended (Commenter No. 2). In addition, the text boxes in each section reinforce that point. One commenter stated that Section 2.1 clearly distinguishes between mandatory and recommended elements of a WAP (Commenter No. 11).

**Response:** EPA thanks commenters for their input.

**Comment:** We heard from one commenter that the revised draft does a much better job at distinguishing between mandatory and recommended elements than the previous draft (Commenter No. 1). However, the commenter expressed concern that, merely by including elements of a WAP not specified in the regulations, EPA will be imposing new burdens on the regulated community. Seven out of the 10 elements in the recommended WAP format outlined in Section 2.1 are not required under the regulations. Regardless of whether EPA indicates in the guidance that they are not mandatory, the guidance creates expectations that regulated entities will put these elements in place even though they are not legally required to do so and may not be appropriate for many facilities.

**Response:** EPA thanks the commenter for its input. However, the Agency disagrees with its concerns that the revised guidance will create additional burden. The guidance includes an upfront disclaimer and other clarifications that its recommendations are not mandatory. Hence, there should not be an expectation that WAPs must include all recommended WAP elements. EPA can envision scenarios, for example, where some of the recommended elements may not be warranted in a facility's WAP, such as where they are addressed elsewhere in the permit application.

**Comment:** We heard from three commenters that the revised guidance (or parts of it) do not clearly distinguish mandatory versus recommended elements of a WAP (Commenter Nos. 6, 12). One commenter stated that previous commenters offered detailed discussions regarding topics that are currently included in the guidance, but are outside the scope of a WAP (Commenter No. 6). The commenter expressed concern that EPA's minor editorial changes (e.g., flags on p. 2-3 and use of more conditional language ("may", "advisable", etc...)) only superficially address these topics. The commenter stated its belief that the majority of these items should not be in the guidance and should not be incorporated into a TSDf's WAP, or else EPA should provide detailed justification for continued inclusion in the guidance.

Another commenter stated that the revised guidance does a better job of distinguishing between mandatory versus recommended elements of a WAP; however, it does not always achieve the desired level of clarity and it often inappropriately states or implies that a practice is mandatory rather than recommended (Commenter No. 12). For example, terms such as "must" and "shall" are still used without a corresponding regulatory citation. In addition, it often quotes or paraphrases regulatory requirements or adds parenthetical text without regulatory bases or citations. The commenter believes that many of these parenthetical statements, voiced as requirements in the guidance, are actually recommendations. The commenter gave some examples, such as the guidance's statement for the treatment facility to provide waste-related information to the next storage or disposal facility (see page 1-12, second bullet) or for TSDf's to perform LDR corroborative tests at least annually (see page 1-17, 5<sup>th</sup> bullet). The commenter stated that these provisions are conveyed as requirements, but are in fact recommendations. In addition, the commenter stated that the revised guidance includes sample documents (Checklist, Sample Waste Profile Sheet, and Sample WAP) that have sections not required by regulation. While EPA chose to identify items that were required versus optional in the revised guidance, it did not do so in the sample documents.

**Response:** EPA thanks the commenters for their input but disagrees that the recommended elements are outside the scope of a WAP. Rather, EPA believes that they provide important clarification on how the mandatory elements will be carried out in compliance with RCRA. An example is the recommended section on Quality Assurance/Quality Control (QA/QC). EPA believes QA/QC is an essential component of any legitimate hazardous waste testing program and therefore is important to address in a WAP in connection with the facility's test methods that must be described at 40 CFR 264.13(b)(2).

Further, EPA notes that a number of states have hazardous waste programs that are more stringent and/or broader in scope than the federal program. In certain cases, the recommended elements in this guidance may in fact be required in some of these states.

That said, EPA will review the document to address their concerns about the use of mandatory vs. recommended language. Specifically, EPA will correct instances where recommendations are discussed as being mandatory. EPA will also include clarifications in the WAPs that the recommended elements are not mandatory and clarify that the sample waste profile is merely an example and other formats may be acceptable. EPA notes that the sample checklist has a footnote

for readers to refer to Part Two for clarification on mandatory or recommended elements. Therefore, EPA has not revised the checklist.

**Comment:** We heard from one commenter recommending that EPA add a reference in the topic sentence of the first paragraph of each section indicating whether the section is mandatory or recommended (Commenter No. 7). For example, instead of "The facility description is an important element of an effective...", the commenter suggested that EPA use "The facility description is a recommended element of an effective ...," and so on. That way, owner/operators can easily distinguish between those sections as they read the guidance, and it may be more explicit than adding a call out box or icon at the beginning of each section. The commenter recommended that the list of mandatory versus recommended elements on page 2-3 is probably good for a cheat sheet, but recommend that it be removed from the text and included in an attachment in order to streamline the guidance.

**Response:** EPA thanks the commenter but believes the existing text boxes and accompanying text are sufficiently effective. The text boxes make clear whether the section is mandatory or not. The same is true of the table on page 2-3, which some other commenters supported.

**Comment:** We heard from one commenter stating that the guidance's reference to "fingerprint analysis" on page 2-33 is an example where a parenthetical comment was added to the revised guidance but is not in the regulation: 40 CFR 264.13(a)(4) does not require fingerprint or other analysis (Commenter No. 12). The commenter believes that the Agency's interpretation of the citation is inappropriate, and "fingerprint analysis" should not be represented as a requirement. Inspection may or may not include analyses, and analyses may not be properly characterized as "fingerprint." In many cases, the owner/operator may determine through the discrepancy resolution process that there is an error in waste profile. In those cases, discrepancy resolution process may resolve the issue and additional testing would not be required. In other words, the generator may determine that the description or text on the waste profile is in error and that correction of the profile rather than additional testing of the waste will resolve the discrepancy. On a similar note, the results of a fingerprint analysis may have nothing to do with whether a waste matches the identity on the accompanying manifest or shipping paper. The fingerprint analyses are often conducted for treatment or other waste management decisions.

**Response:** EPA thanks the commenter and will revise the parenthetical by clarifying that fingerprint analyses are an example: "(e.g., fingerprint analysis)".

## **II.2 Does the guidance describe RCRA sampling frequency and procedures sufficiently (e.g., see Sections 1.2, 2.4 and 2.5)?**

### **General**

**Comment:** We heard from three commenters that the revised guidance (or portions of it) describes RCRA sampling frequency and procedures sufficiently (Commenter Nos. 1, 4, 7). One commenter stated that the guidance is sufficient in regard to sampling but acknowledged that it has a significantly different experience than EPA, in that it never has reviewed any waste profile sheet (or waste characterization report) that included as part of its attached laboratory analyses "three

separate batches” of material results<sup>2</sup> (Commenter No. 4). Another commenter stated that the guidance describes sampling procedures sufficiently, but the description of sampling frequency could be presented in a more clear and concise fashion (Commenter No. 1). Another commenter stated that the text box relating to grab or composite samples under Section 2.5.1 is explicit enough (Commenter No. 7).

**Response:** EPA thanks the commenters and will review the text to find opportunities for further clarification. In addition, EPA notes that the revised guidance no longer includes the phrase “three separate batches” of material results. For example on page 2-57, the guidance has been revised to refer to multiple batches: “For example, if a facility generates a new waste stream during its manufacturing process, it may be a good idea to analyze samples from multiple batches during initial characterization of the waste. This could result in a better sense of waste variability.”

**Comment:** We heard from one commenter stating that the revised guidance does a better job of describing RCRA sampling frequency and procedures; however, it often cites RCRA sampling procedures or requirements together with recommended guidance that is either not applicable or is not appropriately labeled as guidance (Commenter No. 12). The commenter gave examples of this. The commenter noted that the revised guidance refers to “US EPA RCRA Waste Sampling Draft Technical Guidance, EPA 530-D-02-002, 2002.” The commenter stated that this is an example of draft technical guidance, which has not been finalized, is being identified as a source document. The commenter requested that the introductory sentence on page 2-32 should be changed: “Further information on sampling strategies and the optimum applications for each strategy are included available in the following guidance documents, methods, and standards (Please note that some of these links are guidance documents that may or not may not be applicable to a WAP).”

**Response:** EPA thanks the commenter and will review the references to ensure they are acceptable. In regard to the draft sampling technical guidance, EPA notes that the public has effectively used other draft guidances for years, such as the 1994 combustion guidance “Waste Analysis Guidance for Facilities that Burn Hazardous Wastes,” (EPA 530-R-94-019). Simply because a guidance is a draft does not mean it does not have valuable information. EPA views the draft sampling technical guidance as a helpful resource to be used in conjunction with Chapter 9 of SW-846.

### **Representative Samples and Random Sampling**

**Comment:** We heard from one commenter noting that the guidance refers to the term “representative” sample (e.g., in Sections 1.2, 2.4 and 2.92 and Appendix D) and suggesting that there be some brief discussion (and definition) of the term “representative” (Commenter No. 11). The commenter suggested additional discussion on how a representative sample is taken with references to the procedures for liquids, soils, and debris that address homogeneity and heterogeneity of the waste matrices and the hazardous analytes of interest.

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<sup>2</sup> This comment is interpreted as referring to page 2-57 of the guidance, which states that multiple batches should be analyzed.

**Response:** EPA thanks the commenter and will briefly discuss “representative” samples and identify some helpful resources on the representative sampling of different waste matrices. In a February 8, 1990, proposed rule, EPA described several representative sampling scenarios (55 FR 4443-4444). In addition, a final rule published on August 31, 1993 recommends referring to SW-846, Chapter 9, and the comment responses in the docket (58 FR 46045). We will revise the guidance by summarizing and presenting relevant scenarios in a text box.

Further, EPA will clarify that treatment residuals produced during intermediate steps of the treatment train (vs. residuals from one-step treatment processes or the at the end of the treatment train) need not to be tested to determine UHCs or characteristics, which could reduce testing at intermediate treatment facilities that are self-imposing analysis of residuals. As part of this, EPA will clarify that UHCs need to be determined at the point of generation. So long as a treatment residual will be subject to further treatment (e.g., as in a treatment train) and is not the end product, there is no obligation to determine UHCs. This will be presented in a text box titled, “Determining Applicability of UHCs During and After Waste Treatment,” on page 1-11 of the guidance and be based on clarification in a Federal Register notice published on May 11, 1999.

**Comment:** We heard from one commenter expressing concern about the text box on page 1-17 “Considerations for TSDF Acceptance Procedures Text box” (Commenter No. 12). The commenter noted that the 6th bullet recommends “using a random sampling approach for incoming shipments, whereby the TSDF takes a representative sample from a small percentage of incoming waste shipments and performs a comprehensive chemical analysis to verify LDR compliance.” The commenter stated that this bullet has no regulatory references, but noted that RO 12943 includes the following statement: “One strategy used by some disposal facilities to verify data supplied by generators is a random sampling program for incoming waste shipments. In this program, the disposal facility takes a representative sample from a small percentage of incoming waste shipments and performs a comprehensive chemical analysis. Such a program may encourage generators and treaters to properly test and treat restricted wastes.” According to the EPA letter, the intent of the random sampling approach appears to be directed toward encouraging generators and treaters to do more sampling and treatment. It does not address LDR compliance. The guidance as written improperly describes “one strategy” as an LDR requirement. The commenter requests that the bullet be deleted.

**Response:** EPA thanks the commenter for its input but disagrees with its concerns. First, the Agency points out that the strategy is presented as a recommendation in the “Considerations” text box. We therefore do not believe it would be misconstrued as a requirement. In addition, we note that the sampling strategy is in fact aimed at LDR compliance among other things. As the commenter points out, a stated purpose of the strategy is to “verify data supplied by generators.” In addition to the manifest, EPA notes that generators must supply LDR notices and, for wastes meeting the LDR treatment standards, a certification. As such, it can be concluded that verification of “data supplied by generators” should include, among other things, these LDR records. Finally, treaters and disposers must test treated wastes and residues under the LDR program as provided at 40 CFR 268.7(b)(1) and (2) and (c)(2). EPA believes the sampling strategy described in the guidance is consistent with these testing requirements and emphasizes that such corroborative



testing is critical particularly for land-based units. They are ultimately responsible for ensuring that hazardous waste meets all applicable LDR treatment standards before placement into or onto the land.

Additionally, EPA will clarify that treatment residuals produced during intermediate steps of the treatment train need not to be tested to determine UHCs or characteristics, which could reduce testing at intermediate treatment facilities that are self-imposing analysis of residuals.

**Comment:** We heard from one commenter expressing concern about the text box on page 2-28: Different Sampling and Analysis Objectives for Enforcement Agencies and Waste Handlers “Proving the Positive” versus “Proving the Negative” (Commenter No. 3). The commenter stated that use of one sample even for enforcement “proving the positive” goes against all the statistical methodology EPA has developed and approved for characterizing waste streams. The discussion suggests a zero percent false positive error rate which goes against all other approved statistical evaluations. The commenter stated that characterization of waste streams per EPA approved statistical methodology (SW-846 and supplemental guidance) assumes some reasonableness in the required confidence level and rates of false positives and false negatives. The commenter suggested that EPA either reconsider the use of this one sample evaluation or provide additional details regarding the evaluation and information that will be reviewed to determine if the waste represented by that one sample truly exceeds the standard.

**Response:** EPA thanks the commenter for its concerns and recognizes that there is variability inherent in every treatment system, as well as variability in the properties of the wastes. However, we continue to believe that a single grab sample is an appropriate method of determining compliance under “do not exceed” standards, such as treatment standards under the Land Disposal Restrictions (LDR) program.

When the Agency established LDR treatment standards, it accounted for this variability by multiplying the mean of the constituent concentrations by a variability factor. This factor is derived through a quantitative procedure that determines the statistical 99th percentile for the treatment standard. This establishes a treatment standard that should be achievable 99 percent of the time by a well-designed, well-operated system. The Agency further adjusted the treatment standard to account for variabilities due to analytical recovery. In addition, all analyses of hazardous constituents were performed in accordance with an established QA/QC plan as outlined in the BDAT Generic Quality Assurance Project Plan. For additional information on variability, see the preamble to the Phase I final rule (August 18, 1992).

Additionally, in describing its methodology for developing BDAT standards, EPA has clarified that, “as a practical matter, facilities will have to be designed to meet an average level of performance that is more stringent than the standard in order to ensure continuous compliance with the standard” (see page 31 of the December 1988 “Methodology for Developing BDAT Treatment Standards”).

In short, then, the LDR treatment standards were established at levels that take into account waste and analytical variabilities such that a waste treated by a well designed, well operated system

should be below the treatment standard 99% of the time. As such, it follows that, with a very high probability, any sample drawn from such treated waste should be below the treatment standard. This is particularly true given that EPA encourages treatment facilities to meet an average performance level that is more stringent than the treatment standards to ensure continuous compliance.

Further, EPA will include additional references in Part 2 and Appendix G of the guidance that clarify its policy on grab vs. composite samples. This includes preamble to the Phase IV proposed and final rules (May 12, 1997 and May 26, 1998). In addition, the proposed rule's preamble references historical preamble (i.e., June 23, 1989; 54 FR 26605) that discusses in greater detail the Agency's grab sample policy.

**Comment:** We heard from one commenter suggesting that incremental sampling methodology (ISM) should be mentioned (e.g., on pages 2-29 through 2-31) since EPA has hosted webinars on the methodology and appears to support its use (Commenter No. 10).

**Response:** EPA thanks the commenter but believes ISM is mostly relevant to soil sampling protocols. The WAP guidance focuses on characterization of wastes, particularly industrial wastes. Therefore, ISM is not addressed in the guidance. However, EPA will cite online references that discuss sampling strategies and ISM including, among others:

- Guidance for Obtaining Representative Laboratory Analytical Subsamples from Particulate Laboratory Samples, [EPA/600/R-03/027](#), U.S. Environmental Protection Agency, 2003.
- Hot Spots: Incremental Sampling Methodology (ISM) [FAQs](#), Interstate Technology & Regulatory Council (ITRC), 2014.  
Incremental Sampling Methodology, Interstate Technology & Regulatory Council (ITRC) [Web site](#).

### **Sampling Methods and Equipment**

**Comment:** We heard from one commenter noting that the revised guidance states in Section 2.5.1 (page 2-28) that there are two major sampling approaches that may be employed to collect representative samples: Authoritative and Random Sampling (Commenter No. 2). The commenter stated that RCRA does not require the use of a firm statistical basis to determine if a waste is hazardous or to determine compliance with the LDR requirements. The methods employed are required to be an acceptable method and representative. The commenter recommends revising the second to last paragraph on page 2-27 as follows: "The RCRA regulations do not require the use of statistical testing to determine the classification of a waste or to determine compliance with LDR. The sampling methods employed are required to be an acceptable method and representative. Based upon the data objectives and other considerations identified in the sampling strategy, two major sampling approaches may be employed to collect representative samples. These approaches are summarized as follows:"

**Response:** EPA thanks the commenter but does not believe its suggested language is appropriate. EPA notes that the statistical approach in the guidance is consistent with approaches described in Chapter 9 of SW-846. That said, EPA notes that situations may arise where the example in the

guidance is not appropriate. In such situations, EPA refers waste handlers to Chapter 9 of SW-846, which clarifies that the responsibility for developing a technically sound sampling plan rests with the waste generator and advises that he/she seek competent advice before designing a plan. EPA encourages facilities to refer to existing EPA and state guidance (e.g., Chapter 9) and get input from their state agency.

**Comment:** We heard from one commenter expressing concern that the guidance's description on how to use "composite sample" in Section 2.5.1 (page 2-31) is confusing (Commenter No. 11). The commenter noted two problems in this text. The first is related to the suggested use of dividing the action level into smaller numbers. And the second is related to how to handle "hot spots". The commenter gave examples to illustrate these issues:

- We have a pile of soil media from an orchard. We want to figure out if it designates as hazardous waste based on arsenic (As) (regulatory level of 5 mg/L). We take five aliquots as a composite sample and the concentration comes out as 3.0 mg/L of As. Thus, it is SW and not HW. However, individual split samples were taken by dividing the five aliquots. They were analyzed separately with the following results: 2, 4, 3, 2, 4 mg/L. The mean of the concentration for these samples is still 3.0 mg/L and none of them exceed the regulatory level. According to the recommendation, we should divide the action level by five for the composite sample to 1 mg/L. This would mean that the soil is SW for the individual samples but it is HW for the composite sample. This clearly cannot be the intentions of the writers of this text.

Further, in regard to the guidance's discussion of the disadvantages of composite sampling (i.e., below Table 2-5 on page 2-31) and the suggestion to divide the action level by the number of sample aliquots in the composite sample, the commenter stated that the contaminant background in soil must be considered. When the contaminant background level is greater than  $1/n$  times the action level ( $n$  = the number of aliquots comprising the composite), when the action level is divided by  $n$ , the composite concentration is greater than the resultant "action level" when there are no "hot spots" aliquots and unnecessary action would be dictated by this "action level" that was created. In this instance composite sampling is inappropriate. Grab sampling is the appropriate sampling technique. The second problem is that the regulatory action level is the determinant for requiring action. Detection of a "hot spot" in soil through the dilution technique allows only an estimate of the contaminant concentration and does not afford specific location of the "hot spot" within the area sampled. Again, grab sampling is more appropriate.

- Based on the same example data above. Let's say that the composite sample result is still 3.0 mg/L. The individual analytical results come out the following way: 2, 3, 6, 2, 2 mg/L and the mean is still 3.0 mg/L. We now have a hot spot that is above 5 mg/L. Does this make the waste HW? The individual samples say that some part of the soil is HW. It will be complicated to separate one part of the pile of soil and designate it as HW. The conclusion from these examples is that when composite sampling is performed the action level shall not be adjusted as it makes no sense and creates unnecessary over-designation.

Let's assume 5 drums with liquid contaminated with chromium (regulatory level 5 mg/L). A composite sample is taken with one aliquot from each drum and analyzed. The composite result comes out as 3 mg/L. Thus the waste would not designate as HW. However, individual split samples were also taken and analyzed with the following results: 2, 3, 6, 2, 2 mg/L. In this case one of the drums would designate as HW. And because the waste is now in separate containers, one container would be HW and the remaining four containers SW. In this last example, composite sampling is an inappropriate method of sampling the waste.

**Response:** EPA thanks the commenter for its suggestions and concerns. EPA agrees with the commenter that the decision to use composite sampling should be made on case-by-case basis, taking into account waste-specific and other considerations. There are a number of situations where composite sampling is not appropriate (e.g., when each container represents a completely different point of generation/process or the waste-generating process dramatically changes between/during accumulations). EPA will discuss some concerns in Table 2-5 Major Sample Types.

In addition, EPA believes that dividing a do-not-exceed action level into smaller numbers can be useful as a conservative screening approach in certain situations. As the commenter points out, dividing such an action level by the number of aliquots will result in a lower, more conservative level. A facility may, for example, initially decide to take a composite sample for comparison to a conservative action level. If the composite sample exceeds it, the facility may then decide to collect and analyze grab samples for comparison to the original action level, which is generally preferable. EPA will make these clarifications in the guidance, such as when discussing sampling strategies in Section 2.5.1.

EPA will also include the following references for additional information: Chapter 9 "Sampling Plan" of SW-846 and EPA guidance "Superfund Program Representative Sampling Guidance Volume 4: Waste."

Further, EPA will clarify some key differences in the use of composites for generator initial waste determinations. For example, generators should characterize waste in all of its drums during 262.11 waste determinations, and compositing of samples across these drums is not appropriate if their contents are largely unknown. On the other hand, a TSDF's WAP may allow it to fingerprint 1 out of 10 drums holding the same profiled waste on the delivering vehicle. In this case, the drums' waste already has been characterized by the generator and the purpose of the fingerprint is to confirm the waste matches the manifest and profile.

**Comment:** We heard from one commenter that asked for clarification on using "ziplock bags" as a sample container (Commenter No. 10). The commenter expressed concern that using ziplock bags where proper cleaning procedures, ability to close properly, and the potential for condensation and other contamination through the film have a potential to affect data results.

**Response:** EPA thanks the commenter for its question but notes that the guidance does not discuss ziplock bags. In addition, EPA is not prepared to comment on ziplock bags at this time. EPA views

this issue as beyond the scope of our efforts to revise the guidance and will not take further action at this time.

**Comment:** We heard from one commenter suggesting that, on page 2-35, the guidance explain that the entire contents of a coliwasa tube must be placed into a single sample container (Commenter No. 10). Facility personnel have been observed to collect a sample in a coliwasa column and put the contents into five different containers, each being analyzed for a separate parameter. The sample is no longer representative especially for multi-layers.

**Response:** EPA thanks the commenter and agrees that a representative sample would not be obtained by using a coliwasa as described. We will clarify this in the guidance.

**Comment:** We heard from one commenter that recommended adding at the end of the second paragraph on page 2-40: "All decontamination and rinse solutions will be properly collected, characterized and managed" (Commenter No. 2).

**Response:** EPA thanks the commenter for its input. EPA agrees with this suggestion in regard to certain enforcement situations (e.g., if evidence is needed to prove that equipment was properly decontaminated and did not interfere with the analytical results). EPA also agrees that, if any materials or debris removed from field equipment qualifies as RCRA hazardous waste, it should be collected and managed accordingly. We will include the following statement in the guidance: "It is EPA's expectation that all decontamination and rinse solutions, especially in enforcement cases, will be properly collected, characterized and managed. If material or debris removed from field equipment qualifies as RCRA hazardous waste, it should be managed accordingly."

### **Sampling Frequency**

**Comment:** We heard from one commenter expressing its appreciation for EPA's revisions to the guidance regarding sampling frequency, but expressed concerns regarding text on page 2-34 (Commenter No. 2). The commenter agrees it is appropriate to slowly reduce the sampling frequency over time but the addition of "with each subsequent shipment" is redundant and potentially confusing. Second, the commenter is concerned with the use of the word "thorough." Permitting authorities often have a different understanding of what "thorough" means. This type of language is often interpreted to create an impossible threshold to meet. The commenter suggests removing that word. The commenter notes that EPA makes the same statement on page 2-57 in the first part of Section 2.8 on sample frequency, and the commenter suggests making the same changes to this paragraph.

**Response:** EPA agrees to strike the words "with each subsequent shipment" and "thorough." The revised sentence on page 2-34 will be: "When the regulations do not specifically stipulate sampling frequency, you may want to use a tiered approach to waste re-evaluation (TSDFs must do so in accordance with their permit). That is, you may consider conducting a full and accurate ~~thorough~~ initial characterization of each waste and then slowly reduce the frequency of re-evaluation over time ~~with each subsequent shipment~~ as long as the hazardous constituents are safely below the action level (defined in Section 2.3). For example, if a site generates a new waste stream during its manufacturing operations, the number of manufacturing batches to sample should be determined

through a sound statistical basis and with a thorough understanding of the potential for variability in the waste stream.”

**Comment:** We heard from one commenter noting that, in Section 2.8, the Agency recommends that the sampling frequency can be decreased as the value goes further below the action level (see Table 2-9) (Commenter No. 2). The commenter supports this concept but noted that the guidance does not discuss sampling frequency when above an action level. If the material varies around the action level and the facility is attempting to determine whether to treat to meet LDR requirements, then frequent testing may be appropriate. However, if the facility assumes (based on previous testing or acceptable knowledge) that the material will exceed the action level and treats to meet LDR requirements, there is no need to test until after the treatment (to make sure it meets LDR). This may be an appropriate place to add a text box in this section where it is made clear that if a facility makes the assumption that the waste exceeds the action level and treats, that no testing prior to treatment is necessary.

**Response:** EPA thanks the commenter and will revise the second sentence of the call-out box on page 2-57 as follows: “Section 2.8 recommends an approach for determining re-evaluation frequencies when owner/operator judgment is needed. This may include the use of acceptable knowledge in certain situations, if allowed by its permit. For example, if a facility assumes its material exceeds applicable LDR treatment standards and performs treatment, there may be no need to test until after treatment. Of course, a permitted facility’s re-evaluation frequency may be reduced only in accordance with conditions set forth in its permit.”

EPA also will include a text box in Section 2.8 stating that “the LDR dilution prohibition at 40 CFR 268.3 forbids the dilution of wastes that do not meet applicable LDR treatment standards as a substitute for adequate treatment under the LDR program as specified, such as the addition of soil or water to waste, in order to reduce the concentrations of hazardous constituents.” This text box will be accompanied by language stating that, in an enforcement case, regulators may request that the facility demonstrate that it is not performing impermissible dilution. This demonstration could involve showing the concentration of constituents in the untreated waste. Facilities should keep this in mind when considering a reduction in re-evaluation frequency and whether to test before treatment.”

### **II.3 Does the guidance discuss and distinguish between generator and TSDF requirements sufficiently?**

#### **General**

**Comment:** We heard from 3 commenters that the guidance discusses and distinguishes between generator and TSDF requirements sufficiently (Commenter Nos. 2, 4, 7). One commenter stated that, for the most part, the Agency has done a good job of distinguishing between generator and TSDF requirements (Commenter No. 2). However, the commenter suggested revising the first sentence of Section 1.1.3 on page 1-12 because it implies that a WAP is required of all generators.

**Response:** EPA thanks the commenters and will modify the text on page 1-12 as suggested.

**Comment:** We heard from 3 commenters that the guidance does not discuss or distinguish between generator and TSDF requirements sufficiently (Commenter Nos. 1, 6 and 12). One commenter advocated a “clean break” between generator and TSDF requirements (Commenter No. 6). The commenter stated that the revised draft is an improvement as compared to the previous draft, but the two sets of requirements are interwoven into the text in such a manner that call-out boxes and flags do not sufficiently delineate the requirements. Another commenter stated that the distinction is still not clear as it should be (Commenter No. 1). The commenter stated that most of the contents in Part 2, including Sections 2.2 – 2.4, are exclusively TSDF requirements and would only apply to generators if they conduct onsite treatment or have specific treatment units. However, this is not clear to the reader. The commenter strongly recommends separating the guidance into either separate documents or separate sections, each addressing the two different audiences. Another commenter stated that the 1994 WAP guidance had some very clear and concise language on generator responsibility that should be incorporated into the revised guidance to better distinguish between generator and TSDF requirements (Commenter No. 12).

**Response:** EPA thanks the commenters and agrees that additional clarifications are needed. EPA will modify the text box on page 2-1 “Generator WAP Requirements.” It currently recommends that generators “consult Part Two for guidance on developing their WAPs in accordance with applicable requirements.” The revised text box will recommend that generators “refer to Table 2-1 ‘Reference Guide to Key Issues for Consideration When Developing WAPs’ for guidance on developing their WAPs in accordance with applicable requirements.” Table 2-1 includes detailed considerations on how generators should prepare a WAP.

#### **Acceptable Knowledge vs. Testing**

**Comment:** We heard from one commenter stating that EPA appears to de-emphasize the importance of both generator and TSDF knowledge when conducting waste evaluations, in contrast to the expressed preference of collecting significant amounts of analytical data (Commenter No. 6). The commenter stated that technical expertise of both the generator and TSDF is essential in determining the appropriate analytical testing, if any at all, that is needed to both conduct a waste determination and/or assess compatibility with TSDF treatment systems. The earlier 1994 guidance addresses certain of these topics better than the revised guidance.

**Response:** EPA disagrees with these concerns and believes we have struck a reasonable balance between the use of knowledge and testing. For example, on page 1-13 of the guidance, EPA discusses situations when use of knowledge may be acceptable. Among other things, the guidance says “Although it may not meet all TSDF analysis requirements, acceptable knowledge, as discussed above, may be sufficient for documenting compliance in certain circumstances, and is required to be used where no regulatory test defining compliance exists (e.g., D003).” EPA believes such statements make it clear that testing is not always needed. EPA will bold the statement above to emphasize this point.

Further, EPA will say on page 1 of the Introduction that “the guidance has been revised to reflect EPA and state experience gained since the 1994 guidance and that some of the new recommendations in the guidance (e.g., for greater use of testing) reflect this experience.”

**Comment:** We heard from one commenter expressing concern that several examples in Section 1.2 suggest extensive sampling is required when the contaminant levels in these materials are known and sampling may be difficult (Commenter No. 2). The commenter believes the purpose of the revised guidance is primarily for the generator who already possesses extensive knowledge about the waste. In short, the generator's knowledge involves few unknowns such that the sampling frequency and procedures can be narrowly focused on confirming/characterizing the chemical and/or physical characteristics necessary for proper and compliant treatment, storage, and disposal.

**Response:** EPA thanks the commenter but disagrees that the guidance is primarily for generators. It is designed for generators and TSDFs (among others) as the title and introduction clearly indicate. EPA also believes that we have taken a balanced approach when describing the need for sampling and analysis. For example, on page 1-16, we say "Waste acceptance sampling and analysis can include rigorous laboratory instrumental analysis, testing with field test kits and screening instruments, or qualitative observations such as visual identification of color, number of phases, etc."

**Comment:** We heard from one commenter expressing concern that in Section 1.2 (page 1-15), the Agency continues to use the term "contaminated debris" as an example that may require more frequent testing (Commenter No. 2). In the commenter's experience, "contaminated debris" is typically a term reserved for lightly-contaminated, high-volume materials that often is widely varying in composition. Examples include used PPE or materials from demolition activities. The logistics of sampling this category is difficult and the results are not very informative. The basis for the frequency of sampling procedures utilized and analyses performed should be tailored accordingly. The commenter believes in most cases generator knowledge about "contaminated debris" and other similar materials is sufficient to their safe handling. Any additional sampling by those performing treatment, storage, and disposal can be limited to confirmation analyses.

**Response:** EPA agrees and will delete contaminated debris from the example and refer to "variable waste streams or waste streams close to a numerical limit" as the example.

### **Test Methods**

**Comment:** We heard from one commenter that the revised guidance, while improved, neither sufficiently emphasizes the importance of SW-846 methods as applicable to regulatory requirements, nor the ability for an owner/operator to petition EPA for an alternative method approval (Commenter No. 12). The commenter also stated that the guidance lacks a reference to ASTM as a source of acceptable analytical methods. This is a requirement of the Technology Transfer Act of 1995, which requires the federal government to use industry, consensus-based standards when available. The guidance also needs to emphasize that ASTM is an appropriate source for RCRA sampling and analysis methods (e.g., SW-846 is only required for certain analyses under limited regulatory conditions (see the preamble in 55 FR 4442)).

**Response:** EPA thanks the commenter and agrees with its suggestion. EPA will modify page 2-47 by mentioning ASTM, such as: "The laboratory will generally also be able to provide you with



standard operating procedures (SOPs) for any of the test methods that they perform. This includes having SOPs for SW-846 and/or ASTM methods.” In addition, we will include the ASTM web link.

**Comment:** We heard from one commenter asking for clarification on page 2-21 on where the generator or TSDf can find “appropriate tests that have been developed to measure reactivity” (Commenter No. 10).

**Response:** EPA thanks the commenter for raising this issue. EPA will modify the sentence to clarify that there are no appropriate test methods identified by EPA. For additional information on determining the compatibilities of your reactive waste, the commenter may refer to “A Method for Determining the Compatibility of Hazardous Wastes” (EPA-600/2-80-076).

**Comment:** We heard from one commenter expressing concern about the use of terminology on page 2-52 “Selecting Laboratory Analytical Methods – Determination Phase” (Commenter No. 11). The commenter stated that there are some inaccuracies in the text and text box regarding the detection limit. As explained by the commenter, the “method detection limit” is the minimum concentration of an analyte identified, measured, and reported with 99% confidence that the analyte concentration is greater than zero. The detection limit is lowest amount of an analyte where presence of the analyte is established. The analyte cannot be quantified “(reliably measured)” at this level. The “method quantitation limit” or “practical quantitation limit” is generally established at 3 to 5 times the method detection limit. In the first paragraph, the sentence “Analytical sensitivity is the smallest concentration of a substance that can be reliably measured by a given analytical method,” is incorrect since this refers to the detection limit, which cannot be “reliably measured” (quantified). In the text box on page 2-52, the title should be changed from “Detection Limit” to “The Quantitation Limit” or “The Method Quantitation Limit” or “The Practical Quantitation Limit” and the three sentences should be revised. The commenter also stated that, on page 2-31 below Table 2-5, the sentence beginning “After this is done, it must be ensured that the analytical detection limit is less than or equal to ----,” is incorrect. Reliable quantitation is required rather than the indication of analyte presence. The analytical quantitation limit or practical quantitation limit is the correct term.

**Response:** EPA thanks the commenter for its input. EPA agrees that there are a number of terms that are potentially relevant to this discussion (analytical quantitation limit, practical quantitation limit, etc.) and that clarifications are needed regarding the term “detection limit.” EPA will delete “detection limit” wherever appropriate (e.g., in some cases, the term is used in a FR quotation and will not be modified) and replace it with “lower limit of quantitation.” The term “lower limit of quantitation” will be defined as the “the lowest concentration at which the laboratory has demonstrated target analytes can be reliably measured and reported with a certain degree of confidence, which must be  $\geq$  the lowest point in the calibration curve.” EPA also will state that regulated entities should consult their state agency for the appropriate use of terms because it can depend on the context in which the term is used. For more information, see Update V to SW-846. EPA will also define “reporting limit” in Appendix E “Glossary of Terms” because it is commonly used.

Note that EPA disagrees with the commenter's concern about the statement on analytical sensitivity. The statement does not refer to the MDL per se, although the two terms (i.e., analytical sensitivity and MDL) are related. In fact, analytical sensitivity also relates to other concepts and terms, such as the lower limit of quantitation and reporting limit, which are commonly used by labs to describe the smallest concentration of a substance that can be reliably measured. In short, the term analytical sensitivity is a concept that applies across a number of terms as used in the guidance.

### **Elements of WAP**

**Comment:** We heard from one commenter asking EPA to explain on page 2-3 why QA/QC is not a mandatory requirement in the WAP (Commenter No. 10).

**Response:** EPA thanks the commenter for its suggestion but does not believe it is necessary to clarify why QA/QC is not mandatory. EPA believes it is generally understood that QA/QC is not a mandatory element because it is not required in the regulations at 40 CFR 264/265.13.

**Comment:** We heard from one commenter that Section 2.2.2 "Identification/Classification of Hazardous Wastes Generated or Managed at Your Treatment, Storage and Disposal Facility" (page 2-5) is still very confusing (Commenter No. 12). The bullet points for "wastes generated at your TSDF" should be separated from those for wastes "managed (received) at your TSDF."

**Response:** EPA thanks the commenter for its input and will revise the sentence, which appears in bold on page 2-7, to say: "If you generate or manage a RCRA listed waste, you could include tables to present relevant information. For example, Table 2-2 provides one possible format that you may use to present relevant information about offsite (received) waste."

**Comment:** We heard from one commenter expressing concern about EPA statements on page 2-7 that the WAP may need to identify each process generating wastes and the appropriate EPA waste classification (Commenter No. 2). The commenter states that many facilities are complex and information should be limited to a general description of the sources of on-site and off-site waste and the waste codes managed. Changing a permit to include such detail would require a major permit modification with no benefit to the environment.

**Response:** EPA thanks the commenter for its concerns but emphasizes that this is only a recommendation to consider. It is by no means a requirement and this is made clear in the guidance. In the end, it is up to the waste handler and regulators to come to agreement on the need for, and scope of, this description.

### **Data Uncertainty**

**Comment:** We heard from one commenter stating that the data uncertainty calculations for confidence levels in analytical data are unnecessary (Section 2.7, Page 2-54) (Commenter No. 2). The commenter noted that EPA proposed a section similar to Section 2.7 in 1994 but that section was not included in the final draft based on comments from stakeholders. At that time,

commenters noted that EPA requires that the methods employed for analytical data be acceptable methods and that samples are representative; thus no additional guidance is necessary.

**Response:** EPA thanks the commenter but does not believe its suggested language is appropriate for the guidance. As it stands, the revised guidance sets forth statistical sampling and analytical methods that are consistent with methods in Chapter 9 of SW-846. If a waste handler chooses to use alternative methods, EPA re-iterates the statements made in Chapter 9 of SW-846: The responsibility for developing a technically sound sampling plan rests with waste handlers. Waste handlers should seek competent advice before designing a plan. This is particularly true in the early developmental stages of a sampling plan, at which time at least a basic understanding of applied statistics is required.

**Comment:** We heard from two commenters expressing concern about the text box on page 2-56 regarding how to calculate the 90% Upper Confidence Limit (UCL) on the mean . One commenter stated that, although the calculations are correct, the commenter does not think the example is a good one as it suffers from several shortcomings (Commenter No. 11):

- The example on p. 2-56 uses a method that assumes a normalized distribution of the data set. For the data in this example, this assumption is correct. However, many data sets from environmental media do not have a normalized distribution. ProUCL contains many methods that compensated for this as well presence of non-detects.
- Many environmental applications suggest using 95% UCL rather than 90% UCL. In some cases this is even written into the regulations.
- When the commenter ran the data set through ProUCL for 95%, the program recommended having a larger sample size. ProUCL did recommend the 95% Student's-T UCL with a value of 435.6. Most other methods gave the results in the same range including the Non-parametric methods.

The commenter recommends an example using EPA environmental statistics program.

The other commenter pointed out that the guidance seems to establish 90% as the acceptable confidence limit but there is no discussion of this (Commenter No. 6).

**Response:** EPA thanks the commenters but does not share their concerns or agree that revisions are needed. EPA emphasizes that the example computations are consistent with methods in Chapter 9 of SW-846 and are meant only as a simple clarification. Further, the guidance references other reliable sources (e.g., see Part Two and Appendix G of the guidance) that include additional information on calculating confidence limits. Therefore, EPA does not see a need to make further clarifications or additions on this issue.

#### **Other Comments**

**Comment:** We heard from one commenter who objected to the use of elaborate statistical procedures when conducting waste analysis (Commenter No. 6). The commenter stated that the test protocols in SW-846 are primarily in the context of generator waste determinations and LDR compliance. Applying these criteria out of context, particularly to TSDF receiving and fingerprint

verification activities, is inappropriate. In addition, the commenter stated that, in a typical scenario, it is only necessary to engage these methods for wastes that are both near a regulatory threshold and an attempt is being made to declare something as either being non-hazardous or meeting LDR thresholds. Engaging these protocols for waste that is known to be hazardous or to an aspect of TSDF waste management where LDR assessments do not directly apply is inappropriate. The commenter stated that, for a larger TSDF managing thousands of waste streams, these protocols would implicitly place a higher priority on TSDF laboratory operations than the actual waste management activities. The commenter recommended a balanced approach, taking into consideration appropriate environmental protection and safety measures.

**Response:** EPA thanks the commenter and agrees that different analytical approaches may be needed for different scenarios. EPA agrees that some situations may not require extensive statistical approaches. As stated in an earlier response, EPA emphasizes that the responsibility for developing a technically sound sampling plan may involve wastestream-specific considerations and rests with waste handlers. Waste handlers should seek competent advice before designing a plan.

**Comment:** We heard from two commenters stating that “generic” profiles have a wider applicability than that portrayed in the guidance, such as on page 1-16 (Commenter Nos. 2 and 6). One of the commenters stated that the processes generating the wastes are often consistent and well-defined, and correspondingly result in wastes that are equally consistent and well-defined (Commenter No. 2). The sampling frequency and analyses performed in such cases is periodic and routine, aimed solely at confirming the materials are not varying significantly. The facilities that receive wastes under generic profiles can safely and compliantly limit the frequency of sampling and analyses performed to those necessary to ensure the material received is as expected or identified, and is treated, stored, and disposed of compliantly. For such generic profiles, development of acceptable ranges is possible such that testing (fingerprinting) is only necessary to show that the material is within the acceptable range. The other commenter stated that certain types of wastes (e.g., universal wastes) can be common across multiple industries and appropriate for use with a generic profile (Commenter No. 6). Generators with multiple locations across the country, such as retailers, typically share a product inventory that is common across locations and are suitable for use with generic profiles. The eligibility of a given type of waste to utilize a generic profile is a case-by-case determination based on the specifics of the materials that are being managed.

**Response:** EPA thanks the commenters for their concerns but continues to believe that reasonable limits should be placed on the use of generic profiles. EPA is aware of enforcement cases involving the abuse of generic profiles by facilities (e.g., situations where their profile descriptions were overly broad and ineffective at screening out waste streams to which they did not apply).

**Comment:** We heard from one commenter expressing concern with the statements on page 1-17 about rejecting a waste because it falls outside  $\pm 2$  pH (Commenter No. 2). The commenter stated that a waste profile can commonly include much higher ranges of pH than  $\pm 2$ . The  $\pm 2$  threshold only makes sense if the range crosses a regulatory threshold. In addition, the  $\pm 2$  threshold may not make sense if the TSDF is already permitted for a D002 waste. Basically, if the variance does not change the way the waste is managed, the range should not matter.

**Response:** EPA thanks the commenter and believes the pH example may be appropriate for some scenarios but not others. EPA will revise the guidance to clarify that there are at least two purposes of fingerprint tests: 1) to ensure that the parameter being tested (e.g., pH) meets permit requirements and falls within acceptable limits for safe and effective management (e.g., if a treatment process is designed around a specific pH range, a wide acceptance range could jeopardize treatment effectiveness) and 2) to verify that the incoming shipment is the same waste that was approved during pre-acceptance. In regard to this second purpose, if a facility's waste acceptance criteria include a wide pH range for a waste, it becomes an ineffective screen for verifying that the incoming shipment matches the originally approved waste. As a result, a generator might ship a new or changed waste stream that falls within the TSD's wide pH range for acceptance but has vastly different properties than the originally approved waste. Finally, the guidance does not recommend rejection of a shipment that falls outside of the pH range. Rather, it recommends that the pH value be considered a non-conformance that should be evaluated and that the waste may be subsequently rejected or re-qualified as appropriate.

**Comment:** We heard from one commenter expressing concern about the discussion of corrosive solids on page 1-21 (Commenter No. 8). The commenter stated that the discussion is not in agreement with RO 11145, which appears to have concluded that the corrosive precipitation run-off was not hazardous waste for the sole reason that the waste was Bevill-exempted. It also appears to be at odds with RO 11035, which states (underlining added): "...should an applicant or owner/operator demonstrate that the [precipitation] run-off from the active portion of the facility has not had any opportunity to mix with leachate, the collected fluid would not be presumed a hazardous waste, the operator is then required to determine whether this fluid exhibits the characteristics of hazardous waste..."

**Response:** EPA will remove the discussion of corrosive solids from page 1-21 (i.e., the entire bullet). In Appendix A, EPA will insert the sentence: "Corrosive solids are not included in the corrosivity definition and so are not hazardous wastes." It will be inserted into the discussion of the corrosivity characteristic on page A-4.

#### **II.4 Does the guidance describe the relationship between CAA FAP and RCRA WAP requirements accurately (see Sections 2.4.4 and 2.9.2 and Appendix D)?**

**Comment:** We heard from three commenters that the revised guidance describes the relationship between CAA FAP and RCRA WAP requirements accurately (Commenter Nos. 1, 2 and 7). One commenter stated its belief that EPA's direction to coordinate the two plans is clear (Commenter No. 7). Another commenter stated that the Agency did a good job in revising Sections 2.4.4 and 2.9.2 to make it clear that the FAP and WAP have two different functions (Commenter No. 2). The commenter stated that these sections make it clear that individual facilities may choose to merge these two documents, depending upon their local needs. The commenter also stated that the crosswalk of the FAP and WAP regulatory provisions is a useful addition to the guidance document.

**Response:** EPA thanks the commenters for their input.

**Comment:** We heard from one commenter stating that, at the bottom of page 2-33, the Agency makes a statement that off-site combustion facilities may need to characterize all waste prior to burning (Commenter No. 2). The commenter noted that EPA extensively revised Section 2.9.2 to make it more compatible to the current regulatory regime. The Agency added a paragraph (bottom of page 2-64) that discussed when it is not appropriate to sample. Given that the Agency added a discussion on when it is not appropriate to sample waste, the commenter suggests deleting the following sentence from page 2-33: “Off-site combustion facilities may need to characterize all wastes prior to burning to verify that permit conditions will be met (i.e., fingerprint analysis may not be acceptable).”

**Response:** EPA thanks the commenter but disagrees with its concern. Page 2-33 says that offsite facilities “may” need to characterize all wastes prior to burning. Page 2-64 identifies limited cases where it is dangerous, impractical, or unnecessary to use direct sampling and analysis and where characterization based on acceptable knowledge should be used to the fullest extent possible. EPA believes these two statements are compatible and will not delete the text as suggested by the commenter.

## II.5 Miscellaneous Comments

### General

**Comment:** We heard from two commenters expressing concern that, after the first revision of the guidance, EPA deemed a number of comments “out of scope” or “not warranting additional consideration.” (Commenter Nos. 6 and 12). One commenter stated that, when the Agency requested comments on the WAP Guidance, it did not identify or label any components of the WAP guidance as “outside the scope” for commenting (Commenter No. 12). Furthermore, the WAP Checklist, Waste Profile Sheet and Sample WAP are integral to the guidance document and cannot legitimately be considered “out of scope.” The other commenter stated that it does not believe EPA has provided adequate and detailed technical responses to those raised by the commenters (Commenter No. 6). Subsequently, this has resulted in a second draft of the Guidance which, while improved, still requires additional revisions, that are meaningful to the regulated community. Under EPA’s categorization system, 156 comments were deemed to be within scope. These comments in turn were distilled down to four major issues for additional comments. Within these four issues, the commenter believes the detailed comments were over-simplified and responded to by EPA, which resulted in minor-to-moderate editorial changes to produce the second draft of the Guidance.

**Response:** EPA thanks the commenters for their concerns but believes we selected in-scope and out-of-scope comments correctly. A number of out-of-scope comments, for example, asked for additional clarification or information that already is addressed by other sources, such as existing EPA guidance. There were numerous requests for clarification about LDR requirements, for example; however, EPA has issued several guidance documents clarifying the LDR program. EPA has tried to reference these existing sources so readers can find in-depth information and so the guidance avoids overlap with them. In addition, a number of comments sought to expand the scope of the guidance beyond EPA’s desires. EPA does not believe it is appropriate for the guidance to

address every waste-specific or facility-specific question, suggestion or issue raised by commenters. Rather, the most appropriate source for clarification on such issues will most likely be the relevant state agency.

### **Technical Corrections**

We heard from two commenters suggesting miscellaneous technical corrections to the guidance (Commenter Nos. 8 and 11). EPA thanks the commenters for this input. Following are their corrections and EPA responses:

- **Comment:** Table 2-2 on page 2-7 has an error for Facility A in the LDR Column (Commenter No. 11). From the description of 25% trichloroethene, cutting oils, and “other” non-hazardous degreasing solvents, it is likely that the TOC is greater than 1%, making it a nonwastewater .

**Response:** EPA agrees and will revise the guidance to describe it as non-wastewater.

- **Comment:** In Figure 2-7 on page 2-53, it would be informative to list at least some of the various subsets within the method, for example: Polychlorinated Biphenyls, Nitro aromatics, Phthalates, and Polynuclear Aromatic Hydrocarbons, etc (Commenter No. 11).

**Response:** EPA thanks the commenter for its input. EPA has re-created the figure to be easier to read (e.g., larger font size) and include clarifications and corrections. Among other things, EPA added a footnote to clarify that the term “Sample” at the top of the figure refers to the actual waste or a leachate of the waste as required by the TCLP (Method 1311); however, not all methods are needed for the TCLP (e.g., chromium VI, PCBs, chlorinated hydrocarbons, etc). A footnote was also added to clarify that the figure is for illustrative purposes only and that readers should consult the SW-846 manual and project DQOs to determine the methods of preparation, cleanup and analysis. In addition, a footnote was added to clarify that the methods referenced in the figure may contain subsets of analytes and that readers should consult each method for a list of those analytes.

- **Comment:** A statement on page 4-22 does not appear to make sense or be consistent with section 264.72 (Commenter No. 8). It states that "significant discrepancies" includes "Rejected waste" and "Container residue."

**Response:** EPA agrees and will correct this statement.

- **Comment:** A statement on page 4-47: "The apparent pH of non-aqueous wastes will also be performed" (Commenter No. 8). Since pH is a measure of the acidity or basicity of an aqueous solution, performing pH measurements of non-aqueous wastes would not appear to be of any value.

**Response:** EPA disagrees with this comment because pH measurements of non-aqueous wastes could have value regarding safety and handling, proper treatment, etc. EPA points out SW-846's Method 9045D, which sets forth a "procedure for measuring pH in soils and waste samples. Wastes may be solids, sludges, or non-aqueous liquids. If water is present, it must constitute less than 20% of the total volume of the sample." In addition, it should be noted that some states include non-aqueous wastes in their definition of corrosivity, with some including corrosive gases as well as corrosive solids.

- **Comment:** A statement in the second paragraph of page A-2 indicating that the Toxicity Characteristic is an exception to the mixture rule. It is clear from 261.3(g)(2)(i) that only the characteristics of ignitability, corrosivity, or reactivity are involved in this exception to the mixture rule (Commenter No. 8).

**Response:** EPA agrees and will delete the Toxicity Characteristic from the description of this exception.

- **Comment:** On page A-3, the box in the flowchart labeled as: "For purposes of the Land Disposal Restrictions program of 40 CFR Part 268, does the listed waste exhibit a characteristic of hazardous waste in 40 CFR Part 261, Subpart C?" needs to point out that 268.9(b) makes it clear that listed hazardous wastes exhibiting a characteristic do not need to be identified as characteristically hazardous if "the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic." (Commenter No. 8)

**Response:** EPA agrees and will footnote the "Listed and Characteristic Hazardous Waste" output at the end of the table to explain section 268.9(b). Specifically, the footnote will say: "Under 268.9(b), a listed hazardous waste exhibiting a characteristic is not identified as characteristically hazardous provided that the treatment standard for the listed waste includes a treatment standard for all of the constituents that cause the waste to exhibit the characteristic. (For such listed waste, there is no requirement to treat underlying hazardous constituents (UHCs) under Part 268. See Section 1.1.1.1 of this manual for additional information on UHCs.)"

- **Comment:** The second paragraph on page A-4 should reference the "<24% alcohol" exception to the flashpoint provision, and should be updated to state that 261.21(a)(3) gives a detailed definition of "ignitable compressed gas" since 261.21 no longer simply references DOT's definition of an oxidizer (Commenter No. 8).

**Response:** EPA agrees and will re-write this paragraph to be consistent with the ignitability definition.

- **Comment:** The third paragraph on page A-4 lists "EPA Test Method 9041 (pH Paper Method), or an equivalent method" as being acceptable for determining whether a waste



exhibits the characteristic of corrosivity due to pH (Commenter No. 8). This is not correct because the 261.22(a)(1) regulation only specifies Method 9040, and the 6/14/05 Methods Innovation Rule left in place the requirement to use the specified methods for “method-defined parameters.”

**Response:** EPA agrees and will remove “EPA Test Method 9041 (pH Paper Method)”.

- **Comment:** On page C-3, the statement "As with any other solid waste, remediation wastes are subject to RCRA Subtitle C only if they are listed hazardous wastes, derived from a listed waste or identified hazardous waste" should be changed to "As with any other solid waste, remediation wastes are subject to RCRA Subtitle C only if they are listed hazardous wastes, derived from a listed waste or identified AS CHARACTERISTICALLY hazardous waste." (Commenter No. 8)

**Response:** EPA agrees and will make this revision.

- **Comment:** On pages C-3 and C- 4 is the sentence: “If the sludges in the WWTU go directly from that unit into a municipal sewer, and travel through that sewer to a 'Publicly Owned Treatment Works' (POTW) after mixing with sanitary wastes as outlined below, the sludges are not subject to a hazardous waste determination or otherwise regulated as hazardous waste unless they leak from the sewer prior to reaching the POTW.” (Commenter No. 8) As a practice, sludges are not discharged to the sewer since they would likely cause it to plug (which would be a CWA violation). This sentence makes much more sense if the word ""sludges"" is replaced with “wastewater” as follows: “If the WASTEWATERS in the WWTU go directly from that unit into a municipal sewer, and travel through that sewer to a 'Publicly Owned Treatment Works' (POTW) after mixing with sanitary wastes as outlined below, the WASTEWATERS are not subject to a hazardous waste determination or otherwise regulated as hazardous waste unless they leak from the sewer prior to reaching the POTW.”

**Response:** EPA agrees and will revise the guidance accordingly. In addition, it is worth noting that WWTU sludges may be subject to a hazardous waste determination depending upon the nature of the wastewater treated in the WWTU and that the discharge of sludges to the sewer/POTW may be in violation of the CWA unless the discharge is specifically authorized by the receiving POTW.

- **Comment:** On page C-5, the sentence "Privately-owned treatment works, Federally-owned treatment works, and other treatment plants not owned by municipalities are not considered POTWs" needs to be modified to show that the FFCA (section 106) provides an exclusion similar to Domestic Sewage exclusion for FOTWs (Commenter No. 8).

**Response:** EPA does not believe the FFCA exclusion needs to be mentioned under the definition of POTW.

- Comment:** On page C-5 is the statement that "wastewater is not defined under the federal and state hazardous waste regulations, but EPA assumes that wastewaters 'are substantially water with contaminants amounting to a few percent at most.' (See RCRA Online #11020 and #14472)." (Commenter No. 8) This statement does not reflect the fact that RO 11551 pulled back from this "few percent at most" restriction. While it is true that the RO 14472 cited on page C-5 appears to "re-start" use of the few-percent-at-most criterion, this same 14472 guidance erroneously states that "We have not addressed this issue in the context of the wastewater treatment unit exclusion since the July 1981 [RO# 11020] letter." And unlike RO 11551, it is not designated in RCRA Online as "Official OSW Guidance".

**Response:** EPA agrees with the commenter's concerns and will replace the statement with the following: "The Agency has never defined "wastewater" in the Subtitle C regulations, except for the wastewater definition in Part 268 for the Land Disposal Restrictions (LDR) Program (the definition in Part 268 applies only to the LDR program). Typically, EPA has used a very broad interpretation in other regulatory programs (e.g., the Effluent Guidelines Division's Development Document for Electroplating Pretreatment Standards defines wastewater as "any water that has been released from the purpose for which it was intended to be used"). (See RCRA Online #11551.)"

- Comment:** On page D-1, the sentence "Surface impoundments can be used as treatment, storage, or disposal units" should have added to it the following: "as long as the wastes already meet the LDR treatment standards (since surface impoundments are regarded as land disposal units)." (Commenter No. 8)

**Response:** EPA partly agrees with this comment. We will revise the sentence to say: "Surface impoundments can be used for treatment (as provided by 268.4 for managing prohibited waste), or for storage or disposal as long as the wastes already meet the LDR treatment standards."

- Comment:** On page F-1 is the following tip: "Include electronic records management tools used by the facility, [e.g., Excel spreadsheets (for TSDFs) and custom software programs (for generators who are allowed to perform statistical analysis of homogeneous waste streams and are allowed to exclude outliers)]" needs to either give a lot more details on how a generator is allowed under RCRA to "exclude outliers" or drop the second parenthetical altogether. If a generator had an "outlier" exceed an LDR treatment standard that is based on grab samples, that "outlier" would constitute failure to meet the LDR treatment standard (Commenter No. 8). This guidance should not give a generator a "back-door" way of side-stepping this LDR tenet.

**Response:** EPA agrees and will revise the statement: Excel spreadsheets (for TSDFs) and custom software programs (for generators who are allowed to perform statistical analysis of homogeneous waste streams and are allowed to exclude outliers)]"

- **Comment:** On page F-2, EPA should combine the following bullets into one because they are almost identical: “Consider including a permit condition that requires notification of any changes to the WAP or deviation from a test method” and “Include a permit condition requiring notification of any changes to the WAP or significant deviation from a test method.” (Commenter No. 8)

**Response:** EPA agrees and will combine them.

- **Comment:** On page F-2 under "Key Considerations for Generators" is the sentence: "If you do not have the expertise at your facility, consider using a qualified consultant or TSDF for assistance in identifying, collecting, and characterizing your waste." (Commenter No. 8) The commenter recommends adding to the end of that statement the following: "but note that, as the generator, you are ultimately responsible for the proper identification and characterization of your waste." Reason: This makes it clear that the generator remains responsible for complying with the 262.11 requirement of determining if his/her waste is hazardous even though he lacks the expertise to make that determination alone.

**Response:** EPA agrees and will make this modification.

- **Comment:** On page F-2 under "Key Considerations for Generators", the following bullet is unclear: "Be aware of what happens if the waste contains Appendix VIII constituents but does not meet the definition of a hazardous waste." (Commenter No. 8) The commenter asked for clarification about the intended message (e.g., that generators should be wary of situations where a waste contains App VIII constituents but it is nevertheless determined to be non-hazardous?).

**Response:** EPA will clarify this bullet by adding the following example: “(e.g., if UHCs are present in de-characterized waste, the LDRs still attach to the waste. See Section 1.1.1.1 of this manual for additional information).” EPA will also include an additional reference in Appendix G of the manual, which discusses the issues raised by this bullet. The reference is “Management of Remediation Waste under RCRA (EPA530-F-98-026).”

### **Systematic Planning/Data Quality Objectives**

**Comment:** We heard from one commenter that the “Systematic Planning” information in Section 2.3 (page 2-10) is overly complex for the normal users of the guidance document at facilities (Commenter No. 2). The commenter recommends eliminating this section. The commenter suggested that the references at the end of Section 2.3 on Page 2-15 can be placed in Section 2.5.5 giving additional guidance for preparing Data Quality Objectives. Further, the commenter notes that, if the Agency deems it is necessary to retain this section, Step 6 should be removed because generators may have one-time wastes or infrequently generated wastes (e.g., only every few years), or at the other extreme, R&D facilities can produce several hundred unique waste streams each year making statistical evaluations impossible.

**Response:** EPA disagrees with this comment because DQOs are an important consideration in the planning process and many waste handlers are not aware of it. In regard to Step 6, EPA notes this is an example which is consistent with SW-846. Keep in mind that waste handlers can use knowledge, if adequate knowledge exists, instead of testing if they find the approach cumbersome.

**Comment:** We heard from one commenter asking EPA to clarify on page 2-11 what is meant by the statement in Item 2 "... characterize for hazardous nature" (Commenter No. 10). The commenter asked if the intent of the statement: "Is the waste hazardous or not"? The commenter stated that the term "hazardous nature" is unclear.

**Response:** EPA agrees and will revise the statement to say: "(for example, 1. determine if the material is not consistent with the profile, then 2. Conduct necessary testing to determine if reactive, flammable, corrosive or toxic)."

**Comment:** We heard from one commenter expressing concern about the DQO Step 5 on page 2-13 (Commenter No. 8). The commenter notes that the break-out box for DQO step 5 mentions "(F039)", but F039 has nothing to do with this waste, which clearly is not landfill leachate. The commenter stated the same issue pertains to DQO step 6 box on p 2-14. In addition, the commenter stated that a related issue is that the guidance does not give a complete description of the specific waste. The commenter suggested changing the p 2-13 sentence "If any individual sample result is greater than the LDR treatment standard (action level) of 0.75 mg/L TCLP for lead in the leachate non-wastewater (F039), then the waste does not meet the LDR treatment standard..." to be "If any individual sample result is greater than the LDR treatment standard (action level) of 0.75 mg/L TCLP for the lead in the waste, then the waste does not meet the LDR treatment standard..."

**Response:** EPA agrees with the commenter and will remove mention of "leachate non-wastewater" and "F039".

### **Non-Technical Edits**

We heard from five commenters offering these non-technical edits (Commenter Nos. 2, 8, 9, 10, 11). EPA thanks the commenters for their input. Following are their comments and Agency responses:

- **Comment:** We heard from one commenter expressing concern that the guidance is not written clearly enough (Commenter No. 9). The commenter believes that more people, including low- to-moderate income people, would read the guidance and respond to EPA's request for comments if the guidance were written to read like a newspaper article.

**Response:** EPA disagrees that the guidance should be written to read like a newspaper. The guidance is not for the general public but for an audience that understands the regulations and general subject matter.

- **Comment:** The title of the guidance arguably should be changed to "Waste Analyses at Facilities that Generate, Treat, Store, or Dispose of Hazardous Waste" (i.e., change "and" to

“or”) (Commenter No. 8). The guidance also applies to facilities that do not treat or dispose of hazardous waste, but that generate and/or store it.

**Response:** EPA disagrees with this comment. The general scope and intended audience of the revised guidance is the same as the 1994 version. EPA sees no reason to change the title.

- **Comment:** Table of Contents should show an entry for the "Example Waste Profile Sheet" found on pages 2-73 through 2-76 (Commenter No. 8). Pages 2-61 and 4-32 mention this example, but it should be listed in the Table of Contents.

**Response:** EPA disagrees because the example is in the table of contents already.

- **Comment:** In Section 1.1.1, the bolded statement specifies that a generator only needs a WAP when he is managing and treating waste (see page 1-7) (Commenter No. 10). The definition of management of a hazardous waste in 260.10 already includes treatment; the redundancy in the sentence could be confusing.

**Response:** EPA disagrees because the guidance’s language is consistent with the regulatory language at 268.7(a)(5).

- **Comment:** The commenter recommends a period or other punctuation after each bullet, such as on pages 2-2-and 2-60 (Commenter No. 10).

**Response:** EPA will insert a semi-colon or period after each bullet in accordance with EPA’s style guide, as discussed below.

- **Comment:** On page 2-3, the commenter recommends the plural in the brackets where there is more than one section specified (Commenter No. 10).

**Response:** EPA agrees and will modify the guidance accordingly.

- **Comment:** On page 2-17 in the second bulleted list, the commenter recommends putting a period after each sentence since they are fairly lengthy (Commenter No. 10).

**Response:** Consistent with EPA’s style guide, EPA has revised the guidance to include a semi-colon after each bullet if it forms the predicate (or other grammatically necessary component) of its introductory sentence. An example is an introductory sentence such as “The WAP ensures that:”. In this case, the introductory sentence is grammatically incomplete and the bullets are needed. On the other hand, EPA inserted a period after each bullet if they do not form a predicate or other functional component of the introductory sentence. An example is an introductory sentence such as “The WAP must include the elements listed below:”

- **Comment:** The commenter believes Figure 2-2 on page 2-20 is very difficult to read (Commenter No. 10). The commenter suggests changing the font type/ text size or developing a flow chart in a different program.

**Response:** EPA disagrees and believes the figure is sufficiently readable.

- **Comment:** On page 2-22, the commenter noted that both references are very old and need to be updated to reflect current practices (Commenter No. 10). EPA notes that these references are still useful and there is nothing more recent.

**Response:** EPA disagrees and notes that these references are still useful and there is nothing more recent.

- **Comment:** In Figure 2-7 on page 2-53, in the left side GC Analysis Box, Polynuclear Aromatic Hydrocarbons is Method 8100, not 8101 (Commenter No. 11).

**Response:** EPA agrees and will modify the guidance accordingly.

- **Comment:** A sentence on page 4-19 states: "If the analysis indicates that LDR standards have been exceeded for wastes that are either stabilized off-site or certified as meeting the treatment standards as generated, it shall be reported to the state Director" (Commenter No. 8). The commenter stated that, because the word "off-site" typically means a site outside of the generator's site and not a site outside the facility's site, the commenter suggests changing the sentence to: "If the analysis indicates that LDR standards have been exceeded for wastes that are either stabilized ELSEWHERE or certified as meeting the treatment standards as generated, it shall be reported to the state Director."

**Response:** EPA agrees and will modify the guidance accordingly.

- **Comment:** On page D-3, in the paragraph entitled Miscellaneous Units, the commenter stated that there is a missing comma in the second sentence between "landfill" and "incinerator" (Commenter No. 2). That part of the sentence should read "... landfill, incinerator."

**Response:** EPA agrees and will modify the guidance accordingly.

**TABLE OF ORGANIZATIONS COMMENTING ON THE SECOND REVISED GUIDANCE**

<b>No.</b>	<b>Organization Name</b>
1	American Petroleum Institute
2	Coalition for Responsible Waste Incineration (CRWI)
3	Cox Colvin
4	Environmental Geo-Technologies
5	Association of State And Territorial Solid Waste Management Officials*
6	Heritage
7	Michigan DEQ
8	New York DEC
9	Private Citizen
10	Utah
11	Washington
12	Waste Management

\* No comments were provided in their submission.