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May 16, 2019

Mr. Allan B. Taylor, Manager
Hazardous Waste Section
MDEQ - WMRPD
P.O. Box 30241
Lansing, Michigan 48909-7741

SUBJECT: Michigan Disposal Waste Treatment Plant (MID 000 724 831)
Hazardous Waste Management Facility Operating License Application
Completeness/technical Notice of Deficiency for Waste Analysis Plan

Dear Mr. Taylor,

Michigan Disposal Waste Treatment Plant (MDWTP) is responding to Michigan Department of Environmental, Great Lakes, and Energy (EGLE), Waste Management and Radiological Protection Division's (WMRPD), Completeness Review Notice of Deficiency (NOD) for MDWTP's Waste Analysis Plan (WAP) dated October 30, 2018. The comments included requests from the United States Environmental Protection Agency (USEPA), Region V. Attachment A2. Chemical and Physical Waste Analysis Plan (herein referred to as WAP) has been revised to address these comments.

MDWTP strives to continue to work with EGLE to develop a WAP that describes procedures through which it obtains a detailed chemical and physical analysis of waste that is intended to be treated, stored or disposed of at the facility and maintain flexibility needed to operate the business. Additional discussions are required in order to better understand some of the requests and continue to improve the WAP.

For ease of use of the WAP and in order to eliminate confusion associated with the numbering of sections and tables, a brief description of the intent of each section has been provided in the beginning of the section and tables which previously started A2 (identifying the associated attachment) have been simplified to identify the section and table number.

It should be noted that not all deficiencies related to the treatment process are addressed in this submittal. Attachment C4 Treatment submitted on January 17, 2019 included additional information in order to further describe the treatment procedures. The Attachment contains proprietary and company confidential information and as a result it was provided in a separate submittal and should not be disclosed except as provided in 40 CFR Part 2, Subpart B and §324.11129 of Act 451.

The clarifications requested in the NOD resulted in the alteration of multiple pages of the permit application attachments displacing pages of the individual sections. The cover pages provided indicate whether the attachment fully replaces the previous submittal or if it should be inserted in a specific location.

Please contact me if you have any additional questions.

Sincerely,

A handwritten signature in blue ink that reads "Sylwia Scott". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

Sylwia Scott

Environmental Compliance Manager

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Enclosures

cc/enc: Mr. Michael Busse, EGLE
Mr. Leo Parks, EGLE
Mr. Todd Ramaly, EPA Region V
Mr. James Blough, EPA Region V
Mr. Matthew Best, Van Buren Township

Completeness/Technical Notice of Deficiency for Waste Analysis Plan Comments

USEPA Comments:

1. **Cover Page.** *Include a date and a document revision number.*

This has been completed.

2. **Section A2, Introduction.** *Please reference the document title, date and revision number of the most current Quality Assurance/Quality Control (QA/QC) Plan.*

The QA/QC plan has been provided for review and administrative changes may be completed as necessary in order to keep the plan current. Revisions will be provided to MDEQ as an administrative change, but US Ecology prefers to do so without having to modify references in the WAP.

3. **Section A2, Introduction.** *Please ensure a copy of the current approved WAP is available on-site.*

This has been included.

4. **Section A2.A.1(a), Acceptable Waste Type Description.** *The second and third paragraphs are confusing. They appear to attempt to draw a distinction between how characteristic wastes are handled, as opposed to listed wastes. Assuming that the second paragraph refers exclusively to characteristic wastes, it is more appropriate to affirm that these wastes must be both decharacterized and meet all applicable LDR treatment standards for regulated constituents and underlying hazardous constituents (UHC) before disposal is allowed in a Subtitle D facility.*

Language in this section has been revised to address EPA comments.

The second sentence of the third paragraph appears to be missing a word (" . . . may be approved . . ."). Assuming that the third paragraph refers exclusively to listed wastes, it is too simplistic to refer to wastes that are "delisted through treatment"; as the only way this could be accomplished is through a petition process for each waste stream obtained via rulemaking in a process entirely separate from the license and license issuance. This reference should be removed as it incorrectly implies the waste could be delisted through licensing action. It is also incorrect to state that listed wastes could be sent to a Subtitle D landfill.

This was not intended to imply that waste codes can be delisted through licensing action. This was intended to account of situations where delisting occurs allowing disposal in a Subtitle D landfill. Generators may obtain delisting permits which would allow MDWTP or WDI to accept the material and transship to a Subtitle D landfill. This also accounts for solid waste that has been exempted by 40 CFR 261.3(c) and (g) from being a hazardous waste after treatment occurs. A delisting permit is not required for these instances as the rule exempts the waste from being a hazardous waste. Language has been added to this section to provide these details.

5. **Section A2.A.1(b), Restricted Waste Type Description.** *Please clarify that although MDWTP and Wayne Disposal, Inc. (WDI) do not accept low level radioactive mixed waste, they do accept some radiological wastes in accordance with the WAP, Appendix B, Radiological Waste Acceptance Criteria.*

This clarification has been made.

6. **Section A2.A.1(b), Restricted Waste Type Description.** Clarify the following statement to read: In addition, the following waste types are **NOT ACCEPTABLE** for disposal at WDI, but may be accepted at MDWTP.

This clarification has been added.

7. **Section A2.A.1(b), Restricted Waste Type Description.** Please give a clear description and rationale for treating and storing ignitable wastes in comparison to the definitions of ignitable wastes in 40 CFR 261.21.

We agree the criteria for when waste is considered ignitable is outlined in 40 CFR 261.21. D001 waste is also listed as an acceptable waste in Table D.2, which has replaced the previous Appendix A. Section A2.A.1(b) of the WAP however, is intended to provide an understanding of when waste is prohibited for management at the designated facility. The existing permit allows for the storage and treatment of ignitable waste with a flashpoint >90F and prohibits the treatment of ignitable waste with a flashpoint <90F. Therefore, the prohibition outlined as "Ignitable wastes with a flashpoint <90F may be stored but may not be treated," is accurate. A statement was added to identify that ignitable waste is ignitable when a flashpoint is <140F. However, we are unclear what "giving a description and rationale in comparison to the definitions" means. Please provide some additional explanation of this request if this statement did not satisfy the requirement.

Please give a clear description and rationale for treating dioxin-containing wastes for constituents other than dioxin.

Dioxins and furans must meet the applicable treatment standards in order for the facility to accept the waste for any additional treatment. The TSD facility does not have testing capabilities for these constituents and does not intend to perform treatment in order to obtain concentration based regulatory requirements for these constituents. The generator will need to demonstrate these constituents meet the applicable standards through process knowledge or analysis as specified in section A2.A.2. Other constituents of concern associated with these waste codes, will however be treated and tested for as required.

8. **Section A2.A.1(c), On-Site Generated Waste (Pre-Approval).** In this section, please provide some examples of the types of waste generated at MDWTP.

The following is already included in the WAP:

"Housekeeping, maintenance, laboratory and waste processing activities may result in the on-site generation of waste at the facility and may include any of the acceptable wastes listed in the appendix."

Examples have been added.

9. **Section A2.A.2, Pre-Approval Waste Characterization Requirements.** Please provide a clear description of the process to evaluate the waste and verify information if the generator does not provide sufficient information and the WAP does not require a representative sample for analysis.

This section has been revised to provide clarity.

The last paragraph of page 7 is confusing and should state that the treatment, storage, and/or disposal (TSD) facility must determine if the generator supplied information is sufficient. This paragraph claims that the generator-provided profile definitively provides the TSD facility with

sufficient information to meet the requirements of 40 CFR 264.13 (and R 299.9605 by reference). This is actually an expectation, not a definitive guarantee. In lieu of developing their own data (such as from sampling and analysis), the TSD facility is ultimately responsible for accepting this information and is also responsible for accepting generator knowledge that proves to be incorrect. Please add a statement acknowledging the TSD facility's responsibility for accepting the generator knowledge in lieu of developing their own detailed chemical and physical analysis.

The following has been added to A2.A.2: "Without relieving a generator of its responsibility to properly characterize its waste for purposes of treatment, storage and disposal, and to fully and accurately communicate information to MDI or WDI in accordance with the WAP, MDI and WDI acknowledge its responsibility to comply with 40 CFR 264.13 by obtaining all information which must be known to treat, store or dispose of the waste in accordance with Parts 264 and 268 of the RCRA regulations."

Also, please be consistent with facility acronyms such as Michigan Disposal, Inc. (MDWTP) versus MDWTP.

All references have been changed to Michigan Disposal Waste Treatment Plant (MDWTP).

- 10. Section A2.A.3, Sampling and Selection of Waste Analysis Parameters.** *Here and throughout the WAP, the WAP must state specifically which sampling and analytical methods will be used to sample and analyze specific wastes for specific constituents. The stated methods should follow a guidance method, such as the EPA's SW-846 Compendium, but must be identified by the specific standard operating procedures (SOP) used by the facility and analytical laboratory.*

Additional detail has been provided in A2.A.3 in order to provide specific sampling methods. Table A.1 has been revised to provide specific methods for the types of material sampled. Table A.2 now represents sample preservation requirements, and Table A.3 represents the Pre-approval/Waste Characterization Analysis Procedures.

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable.

- 11. Section A2.A.3(a), On-Site Generated Waste.** *Why are on-site wastes to be evaluated for characteristics only? Will some wastes, that are not treatment residues, be derived from listed wastes as well? It is not evident from either this section or Table A2.A.2 what the frequency, and rationale for frequency, of characterization is for each parameter. Regulatory requirements for the WAP require that a frequency for re-evaluation be specified. Reference to section A2.A.6 may have been the intent for this column in the table, as it appears to provide a frequency for re-evaluating waste characterization determinations.*

This section has been revised to address the use of knowledge for a listed waste code determination and includes clarification that a determination must be made on whether the waste is derived from listed waste.

You are correct that the frequency in which a waste stream will be reevaluated should be referenced by A2.A.6. This change has been made.

12. **Section A2.A.3(b), Off-Site Generated Waste.** 40 CFR 262.11 refers to generators determining if their waste is hazardous for the management of the waste. The TSD facility has a further responsibility to characterize the waste for treatment or disposal. 40 CFR 264.13 states that the TSD facility must obtain detailed chemical and physical analysis, such that the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and Part 268 of this chapter. The WAP should state that the TSD facility is ultimately responsible for the collection of accurate information meeting this requirement.

The first paragraph of section A2.A.2 addresses this deficiency.

13. **Section A2.A.4, Pre-Approval Land Disposal Restriction (LDR) Evaluation.** The language in the second paragraph implies that generator process knowledge may be used to determine that characteristic wastes and UHCs already meet LDR treatment standards. While a generator may make the determination in this manner, a TSD facility making the determination for the generator must use testing and analysis. A disposal facility, such as WDI, is also required to test the waste to corroborate the determination.

MDWTP prefers not to accept waste when generators make this type of certification, however in the event that there is a circumstance in which we would receive a waste stream with this type of certification, language has been added to A2.A.4 that describes what the facilities obligation is.

This section has also been revised to further help clarify the process for onsite generated waste versus off-site waste.

14. **A2.A.4(a), Dilution and Aggregation of Wastes.** Please describe the processes for ensuring that diluted characteristic wastes consistently meet the concentration-based treatment standards.

The language in this section was taken from the DEQ template language, the template language is not clear and therefore has been revised to address this as well as provide more detail regarding waste streams that may experience fluctuations in their concentrations.

15. **A2.A.5, Pre-Approval Generator Waste Characterization Discrepancies.** Describe how the WAP ensures that the generator's characterization is representative and accurate.

As stated in Section A2.A.5 waste generators or individuals with the authority to make characterization and LDR decisions on behalf of the generator, must certify information provided is representative, true and accurate.

Section A2.B further details on how the pre-acceptance process compares the pre-approval information (when necessary) in order to verify the information provided by the generator.

16. **A2.A.6, Subsequent Waste Shipment Procedures.** Describe the notification documentation that the generator supplies that assures there has not been a change in a waste's characteristics or treatment requirements. The last statement: "The initial evaluation of waste from each generator will be reviewed or repeated at least once in a calendar year to ensure that the information provided is accurate and up-to-date" should address how the TSD facility will characterize the waste and that they should perform more than just a paperwork review. Also "once in a calendar year" could at times be stretched to almost a two-year window. It would be more precise to require the re-evaluation annually so that it must occur within a year of its last completion.

Generators have an obligation to ensure their waste is properly characterized and the information provided is representative of their waste. This obligation is not limited to their initial approval and annual review. If changes occur to the waste that impact the characterization generators are obligated to notify the TSD facility of these changes.

This section has been revised to better describe the documentation required from the generator. Waste that has not received a certification within one year of the last review will not be received at the facility until a certification is obtained or any changes in the characterization have been approved.

17. ***A2.B.1(b), Sampling Methods and Frequency.*** *Compositing the ten percent of containers sampled partially defeats the purpose of checking individual containers for excessive variability from the profile. The process depends entirely upon the ability for a visual determination of dissimilarity. Important changes in waste character or composition may not be visually evident. At a minimum, screening tests that are quick and efficient should be used first on individual samples, from individual containers, to assess conformity. Compositing in the fashion proposed could mask an errant container by diluting it into the others (in the laboratory compositing procedure). Also, analysis should be required on the visually dissimilar samples.*

The WAP stated, "Individual samples that are visually dissimilar will not be composited." The pre-acceptance screening procedures are not intended to re-characterize a generators waste. It is intended to screen the properties for inconsistencies in the information provided generators in order to verify the identity of the waste is as profiled. Therefore visual variability is an appropriate indicator for collecting samples. Variability that is not expected will be managed through the waste discrepancy process.

It is understood that there are concerns related to waste streams that have increased variability. As a result, the section has been modified to visually inspect and sample more containers if variability is observed.

18. ***Table A2.B.1, Representative Sampling Procedures.*** *Table A2.B.1 does not describe how a representative sample will be collected from waste shipments. This section should describe the procedure for collecting a representative sample. The sampling methods for both containers and bulk shipments lack sufficient detail. It is not evident in the case of bulk shipments that the sampling approach is justified. A single grab sample will not provide representative data, or any information on variability, if the waste is heterogeneous. Chapter Nine of the SW-846 Compendium: Sampling Plans provides examples and rationales for various sampling methods and equipment. US Ecology must specify which ones to use and why. While the sampling equipment is called out, the methods of collection are not well documented. Will full-depth cores be collected from containers? Will full-depth cores be collected from bulk shipments? Where in the bulk container will the sample be collected from? Random locations? Only the surface? What if multiple phases or layers are evident? The WAP should also specify the decontamination procedure if non-dedicated equipment is to be used.*

This table and similar Tables A2.C.2 and A2.D.2 contain parameters designed to assess the potential for wastes or treatment residuals to exhibit the reactivity characteristic. It is not clear exactly how US Ecology evaluates these parameters given the methods referenced. Are any detections considered indications that the wastes are reactive? Is there a concentration at which the determination will be met? Why is there no methodology for total sulfides? US Ecology must describe their parameter rationale for these tests. Also, the screening methods listed as internal should be provided for review in the application since they are not otherwise available.

Section A2.B.1(b) has been extensively revised to provide specific details and address these comments. Total sulfide is not listed as it is not a screening procedure utilized during the pre-acceptance process.

Table B.1 has been revised to provide to outline specific sampling equipment as it relates to the type of waste material being sampled. These changes are intended to outline ways to obtain a representative sample. Further details are included in A2.B.1(b). However, each scenario cannot be contemplated and therefore the information provided is only intended to be a recommendation for selecting the appropriate sampling equipment for obtaining a representative sample.

Parameter rationale has been provided in Table B.2.

It is believed that reference to Table A2.C.2 is intended to reference Table B.2 as the submittal did not have a Table A2.C.2. Table B.2 and D.2 have been revised according to EPA comments.

19. **Table A2.B.1, Representative Sampling Procedures.** *This table lists aqueous waste but does not list non-aqueous liquid waste. If MDWTP also accepts non-aqueous liquid waste, include this in this table and in other tables, as appropriate, in the WAP.*

This has been revised

20. **A2.B.1(c), Waste Screening and Visual Inspection of Waste (Pre-Acceptance).** *Are the waste screening procedures described in this section performed on all the samples collected as described in A2.B1(b) (i.e. samples from ten percent of non-bulk containers and 100 percent of bulk containers)? In this section, please clarify what these waste screening parameters apply to. Describe the acceptable variations in color, physical state, and consistency.*

A2.B.1(c) should be read in combination with the rest of A2.B. Additional language has been added to this section to clarify the frequency of the evaluation is found in A2.B.1(b).

21. **A2.B.1(d), Sampling Methods and Frequency Exceptions.** *Please list and explain the circumstances for which there will be no sampling and no visual inspection for air quality or safety issues. A hazardous waste management facility is expected to be able to conduct sampling and analysis of hazardous wastes; therefore, exemptions must be limited. Reword the first sentence, of the first paragraph, to make it clear that samples may need to be taken in order to conduct the visual inspection.*

Spent activated carbon and ion-exchange resins may be shipped as a bulk solid material in smaller containers or in bulk containers and pose no apparent barrier to sampling. While a visual inspection could corroborate that these materials are carbon or resins, the screening-type pre-acceptance analysis should be conducted.

Also, discarded off-specification commercial products could be off-specification due to contamination that may not be reflected on Material Data Safety Sheets meant to describe the product when it is on-specification. These wastes should also be subject to pre-acceptance screening.

The words "non-hazardous" should be inserted to describe wastes from food or animal processing, animal feces, non-putrescent medical waste, and septic or sewer treatment plant sludge. These wastes should be subject to pre-acceptance screening if any of these waste streams are RCRA hazardous.

The EPA does not agree that pre-acceptance inspection, sampling, and analysis activities are appropriate to conduct off-site. 40 CFR 264.13(a)(4) and (c) require the TSD facility to "inspect . . . each hazardous waste movement received at the facility." This cannot be done off-site because the waste has not been "received."

We agree that exceptions must be limited. It is in the best interests of the facility to visually inspect and sample as much waste as possible. In that spirit, the list of exceptions was thoroughly reviewed and some exceptions have been removed. The changes also consider the specific comments you have provided. Those that remain have been amended to hopefully provide more clarity and to limit the exceptions to only absolute necessity.

We respectfully request that EPA reconsider its interpretation of the rule. Having the flexibility to perform inspection, sampling and analysis activities prior to arrival at the TSDF, with agency approval, has proven beneficial. For example, the U.S. Army Corps of Engineers (USACE) is performing visual inspection, sampling and analysis, under US Ecology direction, at the FUSRAP remediation project in Luckey, Ohio. This option avoids the need for US Ecology workers to have to open special safety packaging required by USACE and reduces turnaround times which allows USACE to accelerate the remediation process and reduce costs by being able to ship more loads per day.

EPA appears to imply 40 CFR 264.13(a)(4) and (c) specifically require inspection, sampling and analysis must occur at the TSDF. The rule neither explicitly prohibits nor explicitly requires the TSDF perform these activities at an alternate location so long as the procedures which will be used to "inspect and, if necessary, analyze" the waste are outlined within the WAP.

The rule also does not prohibit the off-site facility from designating an authorized individual to perform the visual inspection and if, necessary analysis. Generators have an obligation by rule to ensure that the waste characterization (including the chemical and physical analysis provided), and the waste shipping document (which includes reference to the approved waste characterization via the approval number designated on the document), is true and accurate. Knowing these obligations exist and educating generators or other authorized individuals of the expectations of the waste and the WAP procedures, the TSD facility can determine whether the individual is qualified to perform the necessary evaluations on behalf of the TSD facility. Additional language has also been added following discussions with EGLE in order to provide clarity on circumstances when testing at an off-site facility may not be necessary.

Again we request that EPA reconsider its position. We have added clarifying language making use of this condition subject to Administrator approval.

22. ***Table A2.B.2, Pre-Acceptance Analysis Procedures.*** *Under the "Frequency" column, "as needed" is listed several times. "As needed" is vague and does not describe when these tests would be performed. A description of when the test is performed is required for each instance when "as needed" is used. In some instances, the screening is specified for the first shipment only and later shipments are screened "as needed." In this way, the pre-acceptance screening only serves to confirm the first shipment matches the profile. Would later shipments also need this screening?*

Under the "Rationale for Frequency" column, the rationales described are more suited to the "Parameter Rationale" column. The "Rationale for Frequency" column should specify why the frequency was chosen. For example, "First shipment then as needed" is listed for frequency for some wastes. In these instances, the "Rationale for Frequency" should describe why only the first shipment

is being tested for that parameter.

In accordance with 40 CFR 264.13(b)(1), the WAP must specify the parameters for which each hazardous waste will be analyzed. Each hazardous waste is not listed here. There needs to be a correlation between each waste code listed in Appendix A and the parameters in Table A2.B.2.

Note: pH screening with pH paper has a method reference (9041A) which should be followed. A number of screening methods are listed as internal procedures. If these are not externally referenced, they should be included with the application for review; called out as an SOP in the license, that should not be altered without license modification review; or included in the WAP outright.

Additional information has been added to A2.B.1(c) and Table B.2 to better describe the frequency in which screening procedures are performed.

It is agreed that 40 CFR 264.13(b)(1) requires that the owner and operate must obtain a detailed chemical and physical analysis of hazardous waste before it treats, stores or disposes of the hazardous waste. However it is not understood the WAP must include specific waste code to the screening procedures nor is this necessary. Table B.2 identifies screening procedures utilized for each hazardous waste stream received at the facility. Screening procedures are applied to all waste unless they are exempted or if it has been demonstrated (through the preapproval process and the initial shipment) that the waste is not reasonably anticipated to contain cyanides and sulfides. If this information is not suitable additional discussions are needed to understand why EPA feels it is necessary to identify the screening procedures for each individual waste codes.

Narrow range pH paper is not required for this screening as it is a qualitative check. Only 1 aliquot and wide range pH paper is used. As a result, the method cannot be specifically referenced.

23. ***Section A2.B.2, Pre-Acceptance Discrepancy.*** *Describe how pre-acceptance discrepancies and resolutions are recorded.*

Additional information has been added to A2.B.2.

24. ***Section A2.C.1(a), Waste Container Compatibility.*** *What storage or processing of wastes occurs at WDI? The permitted activities appear to be limited to landfill disposal.*

The WAP does not specifically state any storage or processing activities occur at WDI. Additional clarity has been added to A2.C.1.

25. ***Section A2.C.2(a), Tank Assignment (MDWTP).*** *The language here seems to specify that only the generator LDR notification can be used to verify constituents; thus, implies that other sources of this information, such as sampling and analysis by the TSD facility or other parties, is precluded from this determination. Please add that contaminants present that require treatment could also be identified through other means, such as sampling and analysis of the waste as provided for at the end of Section A2.A.2. If available, analytical data identifying additional constituents cannot be ignored, regardless of its source (the generator, the TSD facility, etc.).*

Additional clarification has been provided in A2.A.2 regarding the use of handling methods which identify how waste will be processed at the facility. As described in A2.B.1(a) the generator notification is reviewed for consistency with pre-approval information in order to ensure the handling

method assigned is correct. This helps clarify that the generator notification alone is not solely responsible for determining how a waste stream must be managed.

26. **Section A2.C.2(b), Waste Compatibility With and Within Tanks.** *The referenced table is incorrectly identified. The compatibility test is identified in Table A2.B.2, not Table A2.A.2. The internal procedure for compatibility should be provided for review.*

The table reference has been revised.

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable.

27. **Section A2.C.3, Waste Bulking and/or Consolidation Compatibility.** *The referenced table is incorrect. See comment on Section A2.C.2(b), above.*

This has been corrected.

Please describe how you will confirm that waste bulking and/or consolidation does not violate the LDR Dilution Prohibition. For example, you could demonstrate that the individual waste streams comprising the mixture are similar in composition and are amenable to the same type of treatment, or are treated by the same type of treatment on which the treatment standard for that prohibited waste is based. It is not clear what is meant by "same waste type." Does this mean they carry the same hazardous waste codes? Does this mean they include the same target hazardous constituents, LDR treatment standards, or UHCs?

This section has been modified to address this comment.

28. **Section A2.D.1, Treatment for Purpose of Land Disposal.** *Are LDR-compliant wastes tested again after being used to absorb free-liquids from a non-hazardous waste? Could this activity affect whether the final material meets treatment standards? For example, what if the free liquids are not pH neutral or contained organics?*

Waste streams that have been characterized as nonhazardous prior to treatment will continue to be nonhazardous. MDWTP pH neutral reagents in order to absorb free-liquids. The process also does not create more organics as a result of the process.

29. **Section A2.D.1, Treatment for Purpose of Land Disposal, Paragraph 1.** *The second to last sentence reads, "Treatment of applicable waste codes and UHCs reasonably anticipated to be present at the point of generation as identified by the generator during the pre-approval process...". This sentence is not technically incorrect but it is not entirely clear either. LDR treatment standards must be met prior to land disposal. For listed wastes, 40 CFR 268.40 identifies those regulated hazardous constituents that must meet the specified treatment standards before land disposal can occur. For characteristic wastes, the generator or TSD facility [see 40 CFR 268.7(a)(2)] must identify those UHCs reasonably expected to be present, and treat those constituents to the Universal Treatment Standard (UTS) before land disposal can occur. See 40 CFR 268.40(e). UHCs are specific to characteristic wastes, and are constituents listed in the UTS table 40 CFR 268.48 (except for fluoride, selenium, sulfides, vanadium, and zinc), which can reasonably be expected to be present at the point*

of generation of the hazardous waste, at a concentration above the UTS.

Revisions to the section have been made to address this comment.

30. **Table A2.D.1, Treatment for Purpose of Land Disposal.** *It is not clear how precipitation is used for the treatment of metal-bearing waste. Is stabilization necessary for the precipitate if it is destined for land disposal? Is chemical reduction used primarily for reducing hexavalent chromium to trivalent chromium, not all metal-bearing waste? If so, should this be a separate entry to the table? For hazardous debris, the table should specify whether macro, micro, or sealing is performed and should identify what the contaminants in the debris are.*

Specific details regarding the stabilization treatment processes have been provided in Attachment C4 Treatment which includes information on the details requested. In order to eliminate redundancy the information has not been incorporated in the WAP. However to address your questions, chemical precipitation inherently occurs during the stabilization process as metal hydroxides and salts. Chemical reduction is specifically addressed in the treatment attachment. The table is only intended to provide an overview and as a result the suggested table changes are not being made to the WAP.

31. **Section A2.D.1, Treatment for Purpose of Land Disposal.** *The second paragraph only pertains to "characteristic" wastes. Treatment residuals that become characteristic due to a new property that was not identified as a UHC at the original point of generation would be considered a new point of generation and the treater would need to make a new determination of the UHCs present, either through knowledge or additional testing. This is the same obligation that attaches to any generator of a hazardous waste. See Land Disposal Restrictions - Summary of Requirements, pages 3 to 8.*

It is believed this statement is true for waste streams in which the constituents subject to treatment are any constituents listed in 40 CFR 268.48, such as characteristic waste or soil. Therefore the language has not been changed to specifically state it is for characteristic waste.

32. **Section A2.D.1, Treatment for Purpose of Land Disposal.** *The use of 40 CFR 268.44-49 is an old reference that should be updated. 40 CFR 268.44 pertains to treatment variances the EPA does not believe are applicable here. 40 CFR 268.45 are the debris standards that are also not applicable here. 40 CFR 268.46 refers back to 40 CFR 268.40, 40 CFR 268.47 does not exist, and 40 CFR 268.48 are the UTS already referred to in the previous sentence. Please describe how the soil standards in 40 CFR 268.49 would apply.*

This has been revised. Section A2.D.2(f) addresses the treatment of soil.

33. **Section A2.D.2, Land Disposal Restriction.** *Add "WITH" - "in accordance with". In this sentence, it is not clear what is meant by an "authorized" landfill. Generally, listed waste meeting LDRs must go to a permitted Subtitle C landfill; whereas, characteristic wastes that are decharacterized and meet other applicable treatment standards (such as UHCs) can go to a non-hazardous permitted Subtitle D landfill.*

The language in this section has been revised to provide clarity.

34. **Section A2.D.2, Land Disposal Restriction, Bullet 1:** *The MDEQ believes this bullet is trying to specify that the treatment standards for regulated organic hazardous constituents are based on a totals analysis (milligrams per kilogram), not a leach test (milligrams per liter). It is suggested that these bullets be revised to make this distinction clearer. Perhaps use "all organic regulated hazardous constituents" instead of all hazardous constituents. Use "treatment standards" instead of*

"values."

The three bullets in this section identify the three types of treatment standard requirements and is taken directly from 40 CFR 268.40.

35. **Section A2.D.2, Land Disposal Restriction, Last Paragraph.** *See previous comments on citing 40 CFR 268.44-49. The last sentence of this paragraph was true before the UTS standards were promulgated, however, it no longer applies.*

Alternative treatment standards and variances are applicable to any discussion related to applicability of land disposal restrictions. 40 CFR 268.48 has been removed from this reference.

36. **Section A2.D.2(a), Characteristic Wastes, Paragraph 1, Sentence 3.** *What does "appropriate demonstrations that the waste has met..." mean? More detail is needed here. Also, the waste should be shown to meet applicable LDR treatment standards "and" (not "or") be appropriately decharacterized.*

This is provided in A2.D.3. This sentence has been changed to provide this reference.

37. **Section A2.D.2(b), Listed Wastes, Paragraph 2.** *This paragraph is referring to 40 CFR 268.40(f); however, the paragraph does not include the exact wording of the regulation. The regulatory language is clearer and should be incorporated into the WAP.*

This change has been made

38. **Section A2.D.2(b), Listed Wastes, Paragraph 3.** *Is this paragraph stating that the listed dioxin wastes will be accepted at the facility only if the dioxin regulated hazardous constituents meet LDRs, and that additional treatment may occur for other regulated hazardous constituents only if the dioxin regulated constituents are below LDRs?*

This section has been revised to make this clearer.

Also, are there circumstances in which the dioxins (that presumably already meet LDR treatment standards before treatment) could be concentrated as a result of treatment such that they no longer meet the standard? RCRA hazardous waste, K099, is described as a wastewater. If it is treated for other constituents and a filter cake residual is generated, dioxins could reasonably be expected to concentrate in the filter cake. In such scenarios, the treater must analyze the treated residual for LDR constituents, including dioxins.

Filtercake generation concentrates constituents because wastewater process separates the contaminants from water through the filter press. The treatment process performed at MDWTP does not perform any physical separation of the contaminants from the waste. The treatment process chemically destroys and/or binds the contaminants.

39. **Section A2.D.2(c), Laboratory Packs.** *Laboratory Packs accepted for disposal in the WDI landfill must also meet the requirements of 40 CFR 264.316. The WAP or the license should provide for these requirements.*

This has been added.

40. **Section A2.D.2(d), Radioactive Mixed Waste.** *Should this sentence state that the facility does not*

generate, treat, store, or dispose of mixed waste? (Note: Wastes that are both hazardous and radioactive are termed "mixed wastes").

Mixed Waste is defined in 40 CFR 266.210 as "a waste that contains both RCRA hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended." Though we do accept radiological waste including source material, the waste is exempted waste and not subject to the Atomic Energy Act of 1954. Therefore, the waste identified in Appendix B, cannot be considered mixed waste when it has a RCRA hazardous component.

41. **Section A2.D.2(e), Contaminated Debris, Paragraph 1.** *This section should also state that if a treatment train is used for the treatment of debris, immobilization is the last treatment to be conducted before land disposal [see 40 CFR 268.45(a)(40)].*

This change has been made.

42. **Section A2.D.2(e), Contaminated Debris, Paragraph 2.** *"MDWTP does not knowingly accept hazardous debris deliberately mixed with non-debris hazardous waste in order to change the treatment classification." What is the purpose of this sentence? If MDWTP receives a waste that is not comprised primarily of debris by volume, based on visual inspection, they should refuse it or treat it as a generated waste.*

MDWTP fully agrees that a shipment must be primarily comprised of debris in order to meet the definition of debris and if shipments received are not comprised primarily of debris by volume based on visual inspection the waste is either conservatively managed as non-debris or rejected. This is only one portion of the hazardous debris definition. The definition also prohibits the intentional mixing of debris and non-debris in order to circumvent applicable LDR requirements. When debris and non-debris are cogenerated (non-debris may not be reasonably separated from the debris) together only then can the non-debris be managed as debris. This was added in order to formally acknowledge that intentional mixing is not acceptable, but it has been removed to address this deficiency.

Paragraph 2 further states: *"MDWTP treats hazardous debris in accordance to (sic) immobilization technologies specified in 40 CFR 268.45, where there are no contaminant restrictions for the immobilization technologies nor are there limitations on the type of debris that may be treated by the immobilization technologies." This statement incorrectly implies that EPA does not prohibit any organic constituent or organic concentration from being immobilized, and that immobilization can be used for any type of debris and any regulated constituent, not just metals and inorganics. The EPA has never stated that immobilization works for organics. In fact, our treatment technology background document lists organics as a waste characteristic affecting performance. Additional language should be added to state that if immobilization techniques are used, then macro, micro, and sealing must be conducted as defined in 40 CFR 268.45; and that the performance standard must be met so that the treated debris minimizes short-term and long-term threats to human health and the environment by reducing the toxicity or mobility of hazardous constituents before they are land disposed. **Paragraph 3.** Where is the microencapsulation process conducted?*

We agree that macroencapsulation and microencapsulation must be performed in accordance with the requirements of 40 CFR 268.45. A clarifying statement has been added.

Attachment C4 Treatment provides details regarding where treatment occurs and the performance standard that must be met.

43. *Section A2.D.2(f), Waste Mixtures and Wastes with Overlapping Requirements.* Characteristic hazardous wastes must be treated for both the characteristic and any UHC reasonably expected to be present at the point of generation. Paragraph 2 should be added to section A2.D.2(e).

Section A2.D.2(a) already describes the information requested. This section of the WAP has information that is also included in subsection in A2.D.2. As a result, this section has been eliminated and information that was provided has been moved to A2.D.2(a), A2.D.2(b) and A2.D.2(e) as appropriate.

44. *Section A2.D.2(g), Dilution and Aggregation of Wastes.* To avoid impermissible dilution to meet LDR treatment standards, the facility must also show that:

- *The treatment must destroy, remove, or immobilize the constituents.*
- *Appropriate technology should be used for the constituents (organics not amenable to stabilization).*
- *Aggregated wastes are amenable to the same treatment.*
- *Whether the treatment is the same as the basis for the treatment standard (not required but proof of amenable treatment).*
- *Must show that organic constituents in waste streams containing both organics and inorganics are treated to below treatment standards before treating the inorganics, in order to confirm the organics were not impermissibly diluted.*

Treatment requirements have been described in Attachment C4 Treatment. The information provided in this attachment describes how the technologies meet the criteria above and includes discussion on the sequence of treatment. Treatment information is considered confidential business information. For this reason it is not included in the WAP.

However, it is understood that this section of the WAP is intended to provide a clear understanding of when dilution and aggregation may or may not occur. It should be noted Part 268 does not prohibit dilution in all cases. Rather, dilution is only prohibited if used “as a substitute for adequate treatment” to achieve compliance with or circumvent the LDR standards. Aggregation conducted for legitimate treatment purposes, however, is permissible regardless of any inherent dilution that may occur from combining waste streams or treatment reagents required to effectively treat the waste. EPA rejected a proposal that would have required the quantification of the extent of removal in the case of aggregated waste streams. 55 Fed. Reg. at 22665-666. EPA recognized that such a requirement would be unreliable and unworkable, stating:

“The Agency’s proposal to require reduction of-a BDAT constituent as a means of evaluating if impermissible dilution has occurred did not indicate how much reduction would be deemed adequate, and thus without further elaboration not only fails to provide clear guidance but also potentially fails to achieve the objective of assuring that wastes are treated by an appropriate treatment method. More importantly, *quantifying the extent of removal necessary to be considered legitimate treatment leads to a very complicated system given the number of prohibited wastes, treatability groups, treatment methods and treatment train configurations.*” 55 Fed. Reg. at 22665

The Agency went on to state “...the clearest objective indication that proper treatment for a prohibited waste is being conducted is if the treatment is the same type as that on which the treatment

standard is based.” The treatment methods that MDI applies to batches consisting of aggregated organic and metal waste streams clearly constitute “legitimate treatment” for purposes of Part 268.

We believe that testing a batch for organics before the completion of the treatment process is inappropriate and is not required under the RCRA rules. For purposes of meeting concentration based treatment standards, treatment of organics is always initiated before treatment of inorganics when both organic and inorganic constituents are present in the waste; however the organics treatment process is not necessarily complete simply because the inorganics treatment process has been initiated. Indeed, the two processes can take place simultaneously and take advantage of different properties of the same treatment reagents. The first stage in the chemical oxidation process (i.e. CHOXD, a recognized treatment technology for destruction of organics, see e.g., 40 CFR 268.42 Table 1) involves the addition of an oxidizing chemical which is thoroughly mixed into the batch. Oxidizing chemical on their own are an effective oxidizer capable of destroying the substantial majority of the organic constituents in the batch during this first stage. The second stage of the chemical oxidation process coincides with the initiation of the stabilization treatment process. As noted previously, the oxidation process does not simply stop upon the addition of stabilizing reagents to the batch. To the contrary, the chemical oxidation process continues and, because the stabilization reagents generate exothermic chemical reactions, the process actually becomes more effective and efficient. Thus, although the first stage of the chemical oxidation treatment destroys the substantial majority of organics, the oxidizing chemicals continue to be mixed with the batch, and the enhanced oxidation process continues to destroy any residual organics, during the second stage at the same time that stabilization reagents are reducing leachability of the inorganic materials. Moreover, although MDWTP does not currently rely on stabilization of organics to meet LDRs, we note that EPA has concluded that stabilization can effectively treat organics under certain conditions (see September 1, 2001 Draft Interpretive Memorandum on Stabilization of Organic-Bearing Hazardous Waste to Comply with RCRA Land Disposal Restrictions). Thus, sampling a batch prior to the addition of the stabilization reagent is inappropriate because (a) the oxidation treatment process is not complete and will continue to destroy organics until the batch is cleared for disposal; (b) the stabilization reagent’s exothermic properties enhance the oxidizing properties of the chemical oxidizer, and thus, the addition of the reagent is for legitimate treatment chemical and not impermissible dilution; and (c) it would result in an unnecessary increase in the volume of waste that is ultimately land disposed.

This section has been modified to further explain this.

45. *Section A2.D.3, Post-Treatment Samples and Analysis (MDWTP), Paragraph 1.* 40 CFR 268.7(b) requires a treatment facility to test their waste in order to show compliance with LDRs. The frequency of this testing is to be identified in the treatment facility's WAP. Knowledge cannot be used to determine if the waste meets applicable standards. It is unclear if this paragraph is referring to the generator or the treatment facility. Furthermore, according to 40 CFR 268.7(c), disposal facilities (such as WDI) must also test each waste to ensure compliance with LDR treatment standards, including those certified by the generator and not treated by MDWTP. The citations referenced are incorrect. 40 CFR 268.41 refers to 40 CFR 268.40. 40 CFR 268.42 are not concentration-based standards, but methods of treatment. 40 CFR 268.43 refers to 40 CFR 268.40. See previous comments on 40 CFR 268.44-49.

As correctly pointed out 40 CFR 268.7(b) states, “Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by 40 CFR 264.13.” MDWTP tests each batch for compliance, but a WAP may specify an alternate testing frequency.

46. **Section A2.D.3, Post-Treatment Sampling and Analysis (MDWTP), Second Paragraph.** The second paragraph of Section A2.D.3 states that "Consistent with 40 CFR 268.40(b), compliance with LDR numeric-concentrations based treatment standards for non-wastewaters is determined using one grab sample...". 40 CFR 268.40(b) states that: "For all non-wastewaters, compliance with concentration level standards is based on grab sampling." The EPA disagrees that the agency's compliance sampling method dictates "in turn" the facility's sampling method to ensure all treated waste is below the LDR standards. This does not state that only one grab sample is to be collected. More than one grab sample of a treated batch may be necessary to confirm that LDR program goals were met in that batch, especially when treating large batches, such as at MDWTP. The number of grab samples should be dependent on the size of the treated batch and the variability of the waste. The LDRs make a distinction between the sampling approach for compliance (such as from an enforcement inspection) and LDR verification in a WAP, which is to be evaluated for approval by the license writer on a case-by-case basis. It is important to understand that the method of one grab sample was developed to give the agency's compliance officer a generally easy approach to collecting a sample to meet a lenient treatment standard. The LDRs go on to mention that other types of sampling could be deployed within a WAP, if justified; but if grab samples were collected, they would be considered definitive for compliance.

Page 31 of the December 1988 Methodology for Developing BDAT states 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." It is not clear how a single grab sample of a very large batch could demonstrate that the whole batch is meeting a "more stringent" concentration than the treatment standard. The professed assessment of variability using grab sampling is entirely unjustified in the case of a single grab. A single grab could never provide information on variability.

EPA guidance states that: "The need for sampling and analysis depends on a variety of site-specific factors which the license writer should consider. Such factors include: the variability of the waste; the prior history of the waste generator's performance and reliability; the impact of improperly treated waste on the waste management process; and frequency and extent of testing performed by the generator or treater." This WAP does not definitively collect this information. Without such information (such as waste variability), it is impossible to assign a one-size-fits-all sampling approach to any and all treated wastes.

MDWTP performs a robust, well designed mixing procedure on all waste batches, as described in detail in C4 Treatment. This robust mixing procedure ensures that waste and treatment reagents are uniformly distributed throughout each batch. Although the individual waste streams in some batches may start out as variable, the ultimate treatment residue is uniform. Thus, multiple grab samples of the treatment residue would be redundant and provide no meaningful additional information.

The fact that a robust, well designed mixing procedure achieves a uniform treatment residue, and that a uniform treatment residue is adequately represented by a single grab sample has been demonstrated at US Ecology's facilities. For example, in 2018 EPA collected multiple grab samples from a treated batch of waste at a US Ecology facility in Detroit, Michigan, which has similar operations to MDWTP. The concentrations in all grab samples were uniform and met applicable LDRs. Also, in 2017, EGLE collected multiple grab samples of MDWTP treatment residue and found the same outcome – uniform, passing concentrations, demonstrating that MDWTP's robust, well designed mixing procedure achieves a uniform treatment residue that is adequately represented by a single grab sample.

47. **Section A2.D.3, Post-Treatment Sampling and Analysis (MDWTP).** *How will a "random" sample be determined? What process or method will be used? There needs to be more explanation provided on how the sample is taken and how many samples. There also needs to be substantially more discussion/explanation on how treatment occurs. Is the waste mixed so it is homogeneous before addition of reagents, or afterwards? How long is the waste mixed? What equipment is used? How big are the batches? Is water, how much added during the mixing? The number of samples taken has a direct relationship to the volume of waste treated and the characteristic of the treatment process used. Is every batch of waste sampled? Where is the waste held until the sampling results come back? How long are the wastes typically held? What precautions are in place when re-treating to ensure that dilution is not occurring if additional reagents are added? Is it typically the same type of reagents or something else? A phosphate-based chemical? Is there a waste to reagent ratio that you typically do not exceed?*

Details on how random samples are collected are provided in section A2.D.3. MDWTP does not currently utilize phosphate-based chemicals.

MDWTP performs a robust, well designed mixing procedure on all waste batches, as described in detail in C4 Treatment. This robust mixing procedure ensures that waste and treatment reagents are uniformly distributed throughout each batch. Although the individual waste streams in some batches may start out as variable, the ultimate treatment residue is uniform. Thus, multiple grab samples of the treatment residue would be redundant and provide no meaningful additional information.

MDWTP aggregates similar waste for centralized waste treatment and aggregates waste streams requiring compatible treatment technologies into a single batch. Incidental dilution may occur when legitimate reagents are added to the waste during the treatment or retreatment process however this is not considered impermissible dilution (see response to comment 44). Additional reagents are necessary in order to adequately retreat the waste to the required LDR concentrations. Multiple technologies may be required within a single batch to achieve optimal conditions and maximize the effectiveness of treatment. The order, volume and type of reagent added is critical in designing an effective treatment process. So long as the reagents are legitimately capable of treating the contaminants subject to treatment, the addition of reagents during the retreatment process is not considered impermissible dilution any more than the initial addition of treatment reagents.

48. **Table A2.D.2, Land Disposal Restriction Verification.** *In accordance with 40 CFR 264.13(b)(1), the WAP must specify the parameters for which each hazardous waste will be analyzed. Each hazardous waste is not listed here. There needs to be a correlation between each waste code listed in Appendix A and the parameters in Table A2.D.2. Also, according to 40 CFR 268.7(b), treaters (MDWTP) must test treated waste residue to determine compliance with LDR treatment standards. Treaters "may not rely on materials and process knowledge to make this determination" (62 FR 62083). Furthermore, according to 40 CFR 268.7(c), disposal facilities (such as WDI) must also test each waste to ensure compliance with LDR treatment standards, including those certified by the generator and not treated by MDWTP. Also, "as needed" is not a specified frequency of analysis for LDR verification. The table does not include mention of the toxicity characteristic leachate procedure (TCLP) test. Please note that some LDR treatment standards are based on the TCLP and some are based on the total. The two approaches are not interchangeable, except that the TCLP can be estimated conservatively from the total, but the reverse operation cannot be done. In order to meet LDR for characteristic wastes, the treatment residue may need to be tested for TCLP to verify it is no longer characteristic, while LDR demonstrations for the same constituents may be based on totals analysis. The table provides no specification of such details and it is not clear that the table will ensure the correct analysis is performed, nor prevent the wrong analysis from being performed.*

Table D.2 has replaced Appendix A and provides the correlation between each waste code, parameters associated with the constituents and when testing is required. "Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by 40 CFR 264.13." A waste analysis plan may reduce the frequency in which testing is required and in these circumstances knowledge is what is used.

As needed was included because testing is completed only when it is an associated constituent of concern that is subject to treatment requirements in the pre-approval process and the 40 CFR 268.7 generator notification requirements. Section A.2 provides details on when treatment is required for the different types of waste, and Table D.2 has been revised to be more specific.

49. **Section A2.D.4, Documentation of Variations of Test Methods Used for Waste Analysis.** *The 25 parts per billion LDR treatment standard is for a particular type of mercury-bearing non-wastewater based on the TCLP and should include applicable UHCs.*

Instrumentation at the facility was recently upgraded and this method is no longer being utilized by MDWTP.

50. **Section A2.E.1, Containerized or Bulk Wastes.** *Note that the paint filter test is a method-defined parameter and cannot be replaced with a visual inspection. To be conservative, you could determine that the waste fails the paint filter test by visually observing liquids, but you cannot pass the paint filter test without conducting the test.*

This section has been modified.

51. **Section A2.E.2, Procedures to Determine Addition of Biodegradable Sorbent.** *How are wastes tested for biodegradable sorbents? Please describe the visual procedure and the sampling methodology referenced for this determination.*

40 CFR 264.13(c)(3) does not require testing for biodegradable sorbents. It must identify procedures the owner and operator of an off-site landfill receiving the hazardous waste will use to determine whether a hazardous waste generator or treater has added biodegradable sorbent to the waste in the container. A2.A.2 requires identification of the verification of presence of biodegradable absorbent during the pre-approval process and further clarification has been added to A2.E.2.

52. **Section A2.E.3, Waste Shipped to Subtitle C Facilities.** *This comment applies throughout the document. The use of the term "restricted wastes" is out of date. All hazardous wastes have an LDR treatment standard in place, as such, all RCRA hazardous wastes are "prohibited wastes."*

The change has been made as requested.

53. **Section A3.E.4, Waste Shipped to Subtitle D Facilities.** *This section should be more specific. For example, the facility may ship RCRA hazardous waste to a permitted non-hazardous waste landfill if it is decharacterized and meets all applicable LDR treatment standards (including UHCs). Listed hazardous wastes that meet the criteria established in 40 CFR 261.3(g) may also be sent to a non-hazardous waste landfill. Hazardous debris that has been treated using the destruction or extraction method of treatment, described in 40 CFR 268.45 may be disposed in a non-hazardous waste landfill.*

The requested revisions have been incorporated.

54. Section A.2.F.3, Record Keeping, Bullet 7. Is something missing from the end of this bullet?

No information is missing from this bullet.

55. Appendix A, Hazardous Wastes Accepted at the Facility. Why are all the estimated annual quantities the same? Why are all the process codes the same? Confirm that "G" represents "gallons." The title should match the narrative from A2.A.1(a) which indicates that this waste list applies to both MDWTP and WDI.

Table D.2 has been revised and includes all approved waste codes for each of the facilities. This does not include the process codes and volumes and accurately describes the hazardous waste that may be accepted for treatment or disposal.

56. Subpart CC determinations. Ultimately, the TSD facility must determine the volatile organic compound (VOC) concentration for exemption from air controls.

The WAP must describe the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption, if direct measurement is used for the waste determination that wastes are exempt from Subpart CC. If knowledge of the waste is used for the waste determination and the waste is received from off-site, any information prepared by the facility owner or operator, or by the generator of the hazardous waste, that is used as the basis for knowledge of the waste, must also be collected. The Waste Characterization Report form does not appear to require that generators submit, and that US Ecology collect, this information beyond a simple check-box certification.

Knowledge of the waste provided by the generator's pre-approval information is relied upon to make a determination on whether the waste is exempt from Subpart CC. This is acceptable according to 40 CFR 265.1084(a)(4)(ii) which specifically allows knowledge to be used to make the determination. The rule states, "Examples of acceptable knowledge information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or **other knowledge based on information included in manifests, shipping papers, or waste certification notices.**" The following has been added to A2.A in order to provide further clarity:

"Knowledge of the waste provided by the generator's pre-approval information is relied upon to make a determination on whether the waste is exempt from Subpart CC. Examples of acceptable knowledge includes information included in manifests, shipping papers or waste certification notices."

57. Subpart BB determinations. It was not clear from the WAP alone that the facility must comply with 40 CFR 264 Subpart BB (Air Emission Standards from Equipment Leaks). If such equipment is used to handle hazardous waste, please elaborate on the WAP procedures necessary to document the organic content of wastes in accordance with 40 CFR 264.1063(d).

As stated in Attachment C11 Subpart BB, no equipment exists that is subject to 40 CFR 264, Subpart BB.

Michigan Department of Environmental Quality Comments

1. **Cover Page.** *The cover page addresses only the MDWTP facility and makes no mention of the WDI facility. The text of the document references both facilities. Therefore, the cover page should also list each one.*

The cover page provided introduces the permit application document included in the section. US Ecology intends to continue to operate MDWTP and WDI with the same WAP, however the application submittal is specific to MDWTP, and as a result the cover pages only reflect MDWTP. Technical comments associated with WDI will be addressed during this process. Once technical discussions are completed, WDI will move forward with submitting formal approval to modify its license. This is what was requested from WDI's previous permit writer.

2. **Section A2, Introduction.** *In the opening paragraphs, the previously approved WAP lists more detail regarding the specific facility descriptions. It is unclear if the facility descriptions are included elsewhere in a related document. However, for consistency with the previously approved WAP, perhaps more detailed descriptions of the operations, and specific waste management units within each operation, should be included here.*

The information in the introduction of the previous WAP is incorporated in various attachments of the application and only provides a general overview of the facility. This document is intended to be used by facility personnel who are aware of the general overview of the facility. Also, MDWTP prefers to avoid redundancy in the WAP as it can lead to conflicts within the permit documents when modifications are completed. If there is something specifically provided in the WAP that the EGLE wishes to discuss incorporating into the WAP, please provide this to MDWTP and we will evaluate its incorporation.

3. **Section A2, Introduction.** *What is meant by "trained and qualified" individuals? Will specific qualification, degrees in education, and particular training be required? This information is not provided in the personnel training section of the application to demonstrate compliance with 40 CFR 264.16. Specifically, 40 CFR 264.16(d) requires job descriptions that include requisite skill, education, or other qualifications, and duties of employees assigned to each position.*

The citation provided in this deficiency refers to documents and records maintained at the facility. This information is maintained at the site as required by the rule. A definition has been added to this section to the introduction.

4. **Section A2, Introduction.** *Please correct the reference "24.1063" in the last paragraph to "264.1063".*

This has been corrected.

5. **Section A2.A.1(a), Acceptable Waste Type Description, First Paragraph.** *The information within Appendix A and Appendix B does not correlate to what this section states. Specifically, the text states that: "The waste types that may be generated on-site or received from offsite generators and are acceptable for treatment and/or storage at MDWTP or disposal at WDI are defined in Appendix A and B. In addition to hazardous waste, nonhazardous waste may be accepted for treatment, storage and disposal at the facilities." However, the copy reviewed by MDEQ staff contains only a waste code table, without a key, in Appendix A and information on radiological waste in Appendix B. Within this section, Paragraph 2 states that characteristic waste codes that may be approved into MDWTP or WDI are provided in Appendix A. However, in Appendix A, there is no mention that the codes listed*

have been approved for acceptance into either facility. Within this section, Paragraph 4 mentions the use of a waste characterization form. MDEQ staff recommends that a copy of that form be consistent for both facilities and included in the WAP, such that it can be reviewed for completeness. Finally, since this is the first mention of the appendices within the text, there is no mention of WDI on the table headings within Appendix A, only MDWTP. This contradicts what the text in this section states are contained within Appendix A.

The waste profile is a company business tool subject to change as needed to operate the business. Section A2.A.2 outlines the information that we are committed to ensuring will be present all iterations of the profile until such time that the WAP is modified to allow us to remove the elements. This also identifies critical chemical and physical properties that must be known in order to make a waste acceptance determination.

Table D.2 replaced Appendix A and identifies waste codes approved for receipt at MDWTP and WDI. Section A2.A.1(a) was also revised to provide additional information.

6. ***Section A2.A.1(b), Restricted Waste Type Description.*** *Condition III.F., Special Requirements for Ignitable or Reactive Wastes, of the MDWTP hazardous waste management facility operating license restricts the storage or treatment of ignitable and reactive wastes. The restrictions may not be removed without acceptable justification and demonstration that MDWTP can store or treat the waste(s) in accordance with Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and its administrative rules.*

The following restrictions are applicable as the facility has not and does not intend to demonstrate that the waste can be safely treated, stored or disposed of at the facility

- Prohibited from storing D003 Explosives capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement; explosives readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; and forbidden explosive as defined in 49 C.F.R. §173.54, or it meets the definition of a Division 1.1, 1.2, or 1.3 explosive as defined in 49 C.F.R. §§173.50 and 173.53, which are adopted by reference in R 299.11004.
- Prohibited from storing D003 Reactives that are normally unstable and readily undergo violent change without detonating.
- The licensee may store D003 Water Reactives which reacts violently with water; forms potentially explosive mixtures with water; when mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

A modification request to treat D003 Reactive Sulfides has been submitted with the application and as a result the following restriction should be removed from the license if the department agrees that the waste may be treated and stored at the facility:

- The licensee may store D003 Reactive Sulfides defined as sulfide-bearing waste that, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

Please provide clarification on why the North or East container storage areas are considered appropriate for storing ignitable waste, but the Southeast Container Storage is not. All of the containers storage areas are segregated according to DOT segregation requirements, are separated and protected from sources of ignition or reaction, and are 50 feet from the property line.

7. **Section A2.A.1(b), Restricted Waste Type Description.** *Additional wastes should be added to the bulleted list of waste types not acceptable for disposal at WDI. Specifically, it appears that asbestos waste contaminated with polychlorinated biphenyls (PCB) or RCRA waste, as well as wastes regulated by the Nuclear Regulatory Commission, are not permitted for disposal at WDI. A complete list of these waste types should be specified.*

A2.A.1(b) specifically discusses waste streams that are restricted from treatment, storage or disposal. Asbestos and PCBs are not restricted at MDWTP or WDI and therefore have not been included in this section. A2.A.1(a) has been revised to make it clear that the outlined waste streams are acceptable. It should be noted that asbestos is not considered a RCRA hazardous waste.

8. **Section A2.A.1(b), Restricted Waste Type Description.** *The waste streams from Strebtor, Inc. in Kalamazoo, Michigan, should be added; as well as the Guardian Industries air pollution dust.*

Section A2.A.1(b) listed Guardian Industries air pollution control dust. Strebtor Inc.'s variance approval was issued on December 15, 2017 which proceeded the October 30, 2017 submittal of the first notice of deficiencies and has been incorporated. These have been moved to A2.A.1(a) as they are acceptable. Both of these have been moved to A2.A.1(b) to clarify they are acceptable for waste disposal as specified by the approved variance.

9. **Section A2.A.2, Pre-Approval Waste Characterization Requirements.** *Please provide the current waste profile form. Please clarify that the waste profile form requires the generator to include the additional waste analysis required by: R 299.9605, 40 CFR 264.17, 40 CFR 264.314, 40 CFR 264.1034(d), 40 CFR 264.1063(d), 40 CFR 264.1083, R 299.9627, 40 CFR 268.7, and R 299.9228. The text states that MDWTP and WDI will review the waste profile information to ensure that the facility is authorized to receive the waste, in accordance with the following requirements: ignitable, reactive, and incompatible waste; universal waste; RCRA waste with greater than 500 ppm VOC bearing waste. This statement does not state that these required elements are requested on the waste profile form. Also, it is uncertain what information or requirements the bulleted items are meant to convey.*

The waste profile is a company business tool subject to change as needed to operate the business. Section A2.A.2 outlines the information that we are committed to ensuring will be present all iterations of the profile until such time that the WAP is modified to allow us to remove the elements. This also identifies critical chemical and physical properties that must be known in order to make a waste acceptance determination.

The following provides a breakdown of the rules as it relates to Section A2.A.2.

- R 299.9605—Provides reference to owners and operators of hazardous waste facilities.
- 40 CFR 264.17 — Waste description of ignitability (flashpoint) and reactivity of waste (identification of water, cyanide or sulfide).
- 40 CFR 264.314 — Identification of the addition of biodegradable absorbent and determine the presence of free liquids
- 40 CFR 264.1034(d) — Is applicable to incinerators. We are not a permitted incinerator.
- 40 CFR 264.1063(d) — MDWTP does not have any pumps, compressors, pressure relief devices, valves or lines, or sampling connection systems that contain or contact hazardous waste with organic concentration of >10% by weight and therefore this is not applicable.
- 40 CFR 264.1083 — A determination of whether RCRA waste is <500ppm VOC bearing waste is required. Also see EPA comment 56.

- 40 CFR 268.7 and R 299.9627—Generators must determine whether their waste is subject to the LDRs for each hazardous waste at the point of generation,
- R 299.9228-Addressed by requiring identification of universal waste.

10. Section A2.A.2, Pre-Approval Waste Characterization Requirements. *Please confirm the data included in the generator provided profile information is analytical data.*

The term “data” refers to the information provided by the generator to support their profile information. It could be test data, a Safety data sheet or other reliable and relevant information.

11. Section A2.A.2, Pre-approval Waste Characterization Requirements. *There is no mention whether special conditions should be included as there was in the previous WAP. For example, this would include exemptions for the requirement of a sample of waste for acceptance at either facility. Examples include wastes such as certain personal protective equipment (PPE) contaminated with chemicals, certain asbestos-containing wastes from demolition activities that are properly bagged, certain hazardous contaminated debris and demolition wastes, and specific State of Michigan regulated materials. Cite appropriate disclaimers as needed.*

What you are describing can be found in A2.B.1(d).

12. Section A2.A.3 (a), On-site generated Waste. *Please clarify if MDWTP makes Subpart CC determinations for on-site generated waste at the point of waste origination. If yes, identify the analytical methods used to make those determinations.*

See EPA comment 56

13. Section A2.A.3(a), Sampling and Selection of Waste Analysis Parameters. *Please identify the methods, other than EPA SW-846 methods, MDWTP uses for sampling equipment and methodologies. This information was not included in Table A2.A.1.*

It is unclear what is being requested. The recommendations outlined in the WAP reflect those provided by SW-846, Chapter 9. This is consistent with the existing approved WAP. Extensive detail has been provided to Section A2.A.3(a) in order to provide examples of the methods that will be utilized. It is not feasible to be able to predict every waste container type and waste consistency combination to develop detailed sampling requirements. Therefore the sampling plan has been developed with recommendations of what should be used.

14. Section A2.A.3(b), Off-site Generated Waste. *It appears that inbound load procedures for both facilities should be included in this section. The process for accepting waste as it arrives should be elaborated, including a discussion on load inspections, fingerprinting, off-site inspections and sampling (if necessary), truck unloading, off-specification and rejected load procedures, etc. This section should also provide a detailed summary on the management of containerized liquid and solid waste storage, as applicable, and specifically address wastes within containers and tanks, lab compatibility testing, and bulking/consolidation, consistent with the previously-approved WAPs for the facilities.*

A discussion should also be provided with the specific measures used to manage those wastes that are characteristically hazardous for ignitability or reactive, and other incompatible waste streams. Information pertaining to specific waste treatment technologies used at the facilities that involve chemical stabilization, chemical oxidation, blending/mixing, comingling, and treatability studies should be included.

Inbound load procedures have been provided in Attachment A8 Traffic. Fingerprinting information is identified in A2.B Pre-Acceptance. Unloading is explained in A2 C Acceptance. Off-specification and rejections are discussed in A2.B.2. The management of containers and waste in tanks (including lab compatibility testing) is included in Section A2.C.1 and A2.C.2. Container bulking and consolidation is discussed in A2.C.3.

Attachment C4 Treatment meets this requirement and inclusion in the WAP is unnecessary duplication of information. Additionally, information in the attachment includes confidential business information and as a result it will not be incorporated in a document that is subject to public review.

Precautions are taken to prevent reactions. 40 CFR 264.17(b) states,

“Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

- (1) Generate extreme heat or pressure, fire or explosions, or violent reactions;
- (2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- (4) Damage the structural integrity of the device or facility;
- (5) Through other like means threaten human health or the environment.

The WAP must provide the methods that will be used to meet the additional waste analysis requirement specified by in this rule. Though the rule does not specify analysis is required procedures are identified in the WAP and include the segregation of containers in accordance with DOT segregation requirements, waste screening methods evaluating the flashpoint of waste, and waste compatibility designed to identify when an adverse reaction may occur the observations of heat and gas evolution.

15. ***Section A2.A.3(b), Off-site Generated Waste.*** *Please explain what conditions must be present to cause MDWTP to suspect additional contaminants of concern are present in a waste, other than those identified by the generator. Please correct the typo referencing the location of discrepancy procedures. It should state A2.A.5.*

All scenarios cannot be contemplated, however examples have been included in this section.

The correction has been made.

16. ***Table A2.A.2, Pre-Approval/Waste Characterization Analysis Procedures.*** *Please submit the internal procedures referenced for reactivity and hydrogen sulfide screening for MDEQ review.*

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable

regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable. These procedures have been described in Table A.3.

17. **Table A2.A.2, Pre-Approval/Waste Characterization Analysis Procedures.** *The table states the rationale for mercury is to quantify PCB concentration. The table must provide the rationale for why mercury analysis is needed. Please refer to comment 5 and Attachment item c of the EPA June 8, 2018, Response to Action Items Identified in the December 12, 2017 Meeting letter. Copy enclosed.*

This has been revised. Since the deficiency submittal, instrumentation has been upgraded at the facility and method SW846 7473 is utilized.

18. **Table A2.A.2, Pre-Approval/Waste Characterization Analysis Procedures.** *If generated on-site, it appears that asbestos-containing wastes should be included, as necessary.*

All onsite generated waste is characterized appropriately including non-RCRA regulated waste such as asbestos.

19. **Section A2.A.5, Pre-Approval Generated Waste Characterization Discrepancies.** *There should be a discussion as to the rationale used to select specific criteria used for sampling, and their relevant parameters. Within this section, a discussion on fingerprint analysis, and any necessary supplemental analysis, should be elaborated in the text.*

The fingerprint analysis refers to the screening methods identified in A2.B.

20. **Section A2.A.6, Subsequent Waste Shipment Procedures.** *A discussion should be provided as to some of the specific details that would be associated with this section. More specifically, US Ecology should elaborate as to the procedures used if an inspection of waste shows it is non-conforming. Also, a discussion as to the types of records that are kept from non-conforming shipments should be provided. It would be helpful if this section contained a discussion as to the procedures in place with regards to the handling of subsequent characteristic, listed hazardous wastes, and hazardous debris and their associated LDRs. This section should also contain a discussion of macro-encapsulation and capacity as it pertains to waste shipment procedures.*

Section A2.B.2 discusses procedures for non-conforming waste as it relates to the pre-acceptance process. It is unclear what information is being requested regarding handling of subsequent characteristic, listed, debris and their associated LDRs. Section A2.D discusses these individual waste streams and how they will be managed.

During the January 8, 2019 meeting it was agreed upon that discussions related to treatment capacity will be postponed until technical discussions occur. As a result this has not been discussed. Additionally, this discussion would be included in Attachment C4 Treatment.

21. **Section A2.B.1(b), Sampling Methods and Frequency, Second Paragraph.** *The text states that 10 percent of off-site shipments will be inspected and sampled for each non-bulk approval number per shipment. Since meeting LDRs is a goal of US Ecology, it appears that 10 percent is relatively low. The MDEQ recommends that US Ecology provide justification as to whether this number is effective at assuring conforming deliveries, or if a higher percentage of inspected loads should be proposed.*

The 10% sampling requirement is consistent with the currently approved WAP. Visual inspection and sampling is in the best interests of the facility. For this reason inspection requirements in A2.B.1(b) has been changed in order to identify additional sampling and analysis requirements in certain instances.

22. **Section A2.B.1(d), Sampling Methods and Frequency Exceptions.** *According to the current WAP, Section 4.2, the Odor (Incidental) test is used to detect potentially problematic odors in routine laboratory handling of a sample, which should indicate if the waste will cause odors when processed. This may dictate which side of the treatment plant is better capable of handling potential odors from waste processing. Identify whether this test is no longer being conducted. Also, explain why sampling odorous waste could not occur in container storage areas serviced by air pollution controls.*

Table B.2 has been revised to include incidental odors.

23. **Section A2.B.1(d) Sampling Methods and Frequency Exceptions.** *According to the response, the waste types identified in Section A2.B.1(d) will not be sampled prior to disposal at WDI or treatment at MDWTP. The special conditions are too broad to include articles, equipment, activated carbon, filters, debris, demolition wastes, cathode-ray tubes, commercial products, medical and veterinarian wastes, lab packs, etc. To the greatest extent possible, wastes accepted for treatment or disposal should not be exempt from pre-acceptance sampling, as the successful treatment and disposal of such wastes depends on the accuracy of the detailed chemical and physical analysis required by the WAP. Many of the listed exempt waste streams seem to pose no challenge for sampling. For example, contaminated PPE, spent carbon, or paper filters appear to present no physical challenge to sampling and analysis. It is not clear why a sample would not be required (for example, spent activated carbon, hazardous contaminated debris and demolition wastes, and sewage treatment plant sludge). In this section, the rationale should be described as to why the items listed in this section do not require pre-acceptance sampling.*

We agree that exemptions must be limited. It is in the best interests of the facility to visually inspect and sample as much waste as possible. In that spirit, the list of exceptions were thoroughly reviewed and some exceptions have been removed. The changes also consider the specific comments that have been provided by both EPA and EGLE. Those that remain have been amended to hopefully provide more clarity and to limit the exceptions to only absolute necessity.

Debris is often highly heterogeneous with varying shapes, sizes and materials, making it virtually impossible for any practical sampling program to represent all of the debris in a container. Challenges with sampling debris are acknowledged by the USEPA in their April 2015, *Waste Analysis at Facilities that Generate, Treat, Store and Dispose of Hazardous Waste Guidance Manual*. The establishment of the alternative debris treatment standards in 40 CFR 268.45 further acknowledges USEPA's awareness of the challenges that exist with sampling and testing debris.

24. **Section A2.B.2, Pre-Acceptance Discrepancy.** *What is the procedure to address discrepancies discovered as a result of waste screening/fingerprinting results? The procedures presented seem to apply mainly to manifest discrepancies. This section does not define or address significant manifest discrepancies as those listed in 40 CFR 264.72 and it should. Section A2.F.2 is not the correct location to discuss significant manifest discrepancies because this section deals with sending waste to another treatment or storage facility.*

This section has been revised to address this comment.

25. **Table A2.B.2, Pre-Acceptance Analysis Procedures.** *The application must include SOPs that include QA/QC for any method deviations.*

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable.

26. **Table A2.B.2, Pre-Acceptance Analysis Procedures.** *It appears that several other parameters should be included in this table, as well as their accompanying information. The additional parameters should include: oxidizer, hydrogen sulfide, suspended solids, odor, total metals, VOCs, etc. In addition, this list may also need to include specific compounds, such as hexavalent chromium, and the list of compounds within 40 CFR 261 Appendix VII.*

This table has been revised to include screening procedures. Total metals, hexavalent chromium and VOC testing are not screening procedures necessary to make a pre-acceptance determination. Oxidizer testing is not a screening procedure utilized to make pre-acceptance determinations. The reactivity testing is utilized to identify when an adverse reaction may occur. Compound specific information is obtained during the pre-approval process.

Table D.2 identifies testing requirements for purpose of LDR compliance and identifies metal and VOC methods that will be performed.

27. **Section A2.C.1(b), Containers Without Secondary Containment System.** *A procedure should be prepared in the unexpected event that free liquids are discovered in the secondary containment system (SCS). This procedure should include a discussion as to regular SCS inspections, sampling procedures, laboratory analyses, and management of liquids removed from within the SCS.*

Containers are only stored without secondary containment if they do not contain free liquids. Secondary containment requirements are identified in Attachment C1 Containers and inspection requirements are identified in Attachment A5 Inspection Schedule. Hazardous waste spilled in secondary containment would be managed as the incoming waste was approved.

28. **Section A2.C.2(b), Waste Compatibility With and Within Tanks.** *The referenced table is incorrectly identified. The compatibility test is identified in Table A2.B.2, not Table A2.A.2. The internal procedure for compatibility should be provided for review, or include references to the approved Lab Compatibility Test and the Work Plan for Lab Compatibility Test, for determining waste compatibility prior to waste treatment. These documents were approved as part of the WAP and may not be deleted without MDEQ approval. All SOPs essential to waste analysis and required by the WAP must be included in the application. SOPs determined to include required elements of the WAP should be retained as a formal part of the WAP. The laboratory's SOP for PCB analysis, including extraction procedures must also be provided in the application. Section 3.4.3, Lab Compatibility Test, of the approved WAP, states that MDWTP follows the current version of the Work Plan for the Lab Compatibility Test, maintained on-site, prior to transferring any wastes into a storage tank.*

The table reference has been modified.

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable

regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable. This is consistent with WAP requirements specified in 40 CFR 264.13 which require the facility to "**describe the procedures** which will be carried out."

29. **Section A2.C.3, Waste Bulking and/or Consolidation Compatibility.** *There should be a discussion regarding the fingerprinting of incoming bulked wastes. This discussion should include the appropriate sample methodologies, parameters, and laboratory analyses for both solid and liquid bulked waste streams. It should also include language on important factors such as equipment decontamination, sample preparation, QA/QC, health and safety, etc. There should be a discussion regarding if any bulked or comingled waste streams would be used as treatment reagents for other waste streams accepted at the US Ecology facilities. Should a waste stream be used as a reagent, there should be a well-documented procedure for its use, which will include information on its chemical assay and application to the process, prior to its approval for use.*

This information is provided in Section A.2.B. The QA/QC plan addresses health and safety requirements and as stated in the introduction, all analysis performed pursuant to this WAP will be consistent with the QA/QC Plan. Therefore waste that is intended to be bulked will be sampled and analyzed just as all other waste received. As stated prior to consolidation the waste will be compatibilized to ensure the consolidation does not cause an adverse reaction.

It is not clear what EGLE is asking in regards to the use of consolidated waste stream as a reagent. Please provide details on why it is believed comingled waste streams would be used as a treatment reagent.

30. **Section A2.C.4, Transshipped Waste.** *Explain the flow process for a transshipped waste from receipt to transport off-site. In addition, describe how personnel distinguishes drums or other containers destined for transshipment from other drums or containers managed at the facility. The current WAP procedures state that transshipped waste will be managed in accordance with the WAP. Why was this statement not included in the proposed WAP?*

Waste intended to be transshipped utilizes the storage requirements of the license. Additional information has been included in the WAP to discuss handling methods and the process flow of all waste. A2.B.1 has been revised to better explain how the containers placed in storage are identified. A2.C.4 has been revised to specify where the containers are stored while awaiting transportation and the requested statement has been included in this section.

31. **Section A2.D.1, Treatment for Purpose of Land Disposal.** *This section discusses the use of well-designed treatment methods such as stabilization, immobilization, neutralization, deactivation, oxidation, and/or reduction. Each individual treatment method should be elaborated such that their respective processes can be consistently applied without having to look up methodology in RCRA or elsewhere.*

Attachment C4 Treatment meets this requirement and inclusion in the WAP is unnecessary duplication of information. Additionally, information in the attachment includes confidential business information and as a result it will not be incorporated in a document that is subject to public review.

32. **Section A2.D.2(a), Characteristic Wastes.** *This section omits any discussion of decontamination procedures between the treatment of characteristic and listed waste streams. These decontamination*

procedures should be fully discussed and consistently applied anytime wastes of different hazardous natures are treated. It should be explained in this section, but also in other relevant sections within the WAP where treatment changes between characteristic and listed wastes.

This has been incorporated.

33. **Section A2.D.3, Post-Treatment Sampling and Analysis (MDWTP), First Paragraph.** *This part describes how treatment standards must be used to evaluate if applicable concentration levels have been attained. Testing the waste is one way the standards can be evaluated. This paragraph should include a procedure that will be used to trigger testing of the waste versus using a previously-used treatment recipe or other means.*

It is believed the requested information has already been provided in Section A2.D.2. For example for characteristically hazardous waste, "Waste codes will be treated to treatment standards identified in 40 CFR 268.40. In addition to the waste codes, UHCs reasonably anticipated to be present at the point of generation will be treated to universal treatment standards (UTS) found in 40 CFR 268.48."

Within this section, the second paragraph discusses sampling treated waste via one grab sample collected randomly from within the entire waste batch. US Ecology should explain why only one sample can be considered representative of the entire batch, regardless of quantity of waste being treated as part of that respective batch.

See EPA comment 46.

The third paragraph within this section discusses the need to re-evaluate treatment batches that exceed LDRs. One of the options includes retesting. A discussion should be provided as to what specifically triggers the need to re-evaluate the treatment batch. In addition, the Variety of options used to re-evaluate the batch should be listed and described.

This has been addressed in A2.D.3.

This section should also address whether or not there could be the need for any supplemental analysis not typically used as part of the post-treatment testing. This discussion should include method-specific sampling procedures, list of analytes, and QA/QC requirements.

It is unclear what supplemental analysis is considered in this statement. Please provided additional details.

34. **Table A2.D.2, Land Disposal Restrictions Verification.** *Please submit the internal procedures referenced in the table for MDEQ review. Also, address the comments on Table A2.D2 Land Disposal Restriction Verification under Attachment item c of the EPA June 8, 2018, Response to Action Items Identified in the December 12, 2017 Meeting letter. Copy enclosed.*

Internal facility SOPs are business tools subject to change as needed to operate the business with the understanding that such SOPs may not be less stringent or otherwise conflict with applicable regulations, the approved WAP or other applicable regulatory requirements. With that in mind, and to preserve the facility's ability to control its internal SOPs, it is appropriate to document descriptions of these methodologies in the WAP which obligates the facility to meet these requirements and makes them enforceable. Table D.2 provides a description of the verification procedure. This is consistent with 40 CFR 264.13 requires the facility to "**describe the procedures** which will be carried out."

35. **Section A3.E.3, Waste Shipped to Subtitle C Facilities.** Please check if there is an error in the outline numbering. The headings go from A2.E.2 to A3.E.3.

This has been revised.

36. **Section A.2.F.3, Record Keeping.** The operating log should include documentation on treatment failures.

This has been revised.

37. **Appendix A XIII. Description of Hazardous Wastes.** In addition to the comments discussed above in Section A2.A.1(a), US Ecology should clearly and completely discuss the rationale for listing the same estimated quantities of code-specific waste in column "B". In addition, US Ecology should also discuss, or include in a key, specifically why the same process code applies to all waste codes as listed in column "D1".

Table D.2 outlines all acceptable hazardous waste at MDWTP and WDI and therefore replaced Appendix A.

MDEQ WAP Comments Not Addressed in the October 31, 2017, Response

1. Identify the facility personnel (e.g. lab manager, plant manager, supervisor) responsible for ensuring compliance and making key decisions for waste analysis. The QA/QC Plan identifies some of these positions. The QA/QC concepts should apply to all facility operations governed by the WAP, not just those operations performed in the laboratory. For example, chain of custody procedures or training may apply to samplers or treatment process operators that implement aspects of the WAP. The training program information provided in the application does not include job descriptions for personnel related to hazardous waste management.

Job descriptions are subject to change as the business requires. Flexibility is needed to change job titles and descriptions and as a result the information regarding facility personnel and job description will continue to be maintained at the facility as required by 40 CFR 264.26(d). Attachment A10 Personnel Training was reviewed as part of the January 17, 2019 submittal and incorporated the required information agreed upon during the January 8, 2019 meeting.

Please provide the regulatory citation that specifies facility personnel responsible for execution of the WAP must be specifically identified in the plan.

2. Identify the actions performed by MDWTP to prevent accidental ignition or reaction of ignitable or reactive waste. The response provided a restatement of the 40 CFR 264.17 requirements, and does not identify the specific actions taken by MDWTP facility personnel.

Precautions are taken to prevent reactions. 40 CFR 264.17(b) states,

"Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

- (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- (4) Damage the structural integrity of the device or facility;
- (5) Through other like means threaten human health or the environment.

The WAP must provide the methods that will be used to meet the additional waste analysis requirement specified by in this rule. Though the rule does not specify analysis is required procedures are identified in the WAP and include the segregation of containers in accordance with DOT segregation requirements, waste screening methods evaluating the flashpoint of waste, and waste compatibility designed to identify when an adverse reaction may occur the observations of heat and gas evolution.

3. *MDWTP must determine if it operates any equipment that contacts hazardous waste streams containing at least 10 percent total organic concentrations by weight. Subpart BB standards may be applicable for pumps, pressure relief devices, sampling connecting systems, valves, flanges, or other connectors. The application does not specify whether organic wastes are stored in the vertical tanks 16-19, 21, and 25. If Subpart BB standards are applicable, the methods for organic content measurement to comply with 40 CFR 264.1063(d) must be included in the application.*

The response provided for this deficiency states since the vertical tanks are restricted to less than 500 ppm it is not plausible for emissions from the equipment to exceed the amount of VOCs in the waste. At the December 12, 2017, meeting between the EPA, the MDEQ, and US Ecology, the EPA agreed to examine the approach of making the 40 CFR 264 Subpart BB waste determinations using 40 CFR 264 Subpart CC waste determinations at 500 ppm VOCs. Based on the EPA's review, they believe it is not proper to draw this equivalence. VOCs (the subject of Subpart CC) are only a subset of the organic compounds that may comprise the material subject to Subpart BB. The two categories are not directly comparable. Subpart BB waste determinations must be made in accordance with the Subpart BB requirements of 40 CFR, Part 264.1063(d). Please refer to comment 3 of the EPA June 8, 2018, Response to Action Items Identified in the December 12, 2017 Meeting letter. Copy enclosed.

This was addressed in the January 17, 2019 deficiency response.

4. *Include methods for average volatile organic measurement to comply with Subpart CC, 40 CFR 264.1083. The methods are not included in Template A3, Section A3.A.2(c). If alternate methods are used, they must be included in the WAP. The WAP must specify if normal or alternative methods are used. This information is also necessary for all on-site generated waste.*

This has been addressed as specified in the EPA deficiency above.

5. *Applicants proposing to treat hazardous waste shall submit all of the information in R 299.9504(5) in an operating license application for a new facility or the expansion, enlargement, or alteration of an existing facility. MDWTP is proposing to treat D003 sulfide waste, and hazardous waste debris, by macroencapsulation and sealing immobilization technologies. The application must provide evidence that MDWTP can successfully treat D003 sulfide waste and implement the immobilization technologies to meet the performance and/or design and operating standard to demonstrate compliance with the alternative treatment standards for hazardous debris.*

This information was provided in Attachment C4 Treatment as confidential business information.

6. *Include the procedures or SOPs for how MDWTP will perform the proposed macroencapsulation and*

sealing treatment processes. These procedures must include, but are not limited to:

- *Identification of each licensed container storage area where treatment will be conducted.*
- *On a map, define and identify the treatment boundaries within each licensed container storage area where treatment will be conducted.*
- *The design capacity for each treatment process.*
- *A flow diagram of the treatment processes.*
- *A logical flow process for hazardous debris destined for macroencapsulation or sealing treatment from receipt to storage to treatment to disposal.*
- *Define the measurement for treatment completion.*

The application must also demonstrate that conducting treatment processes in the container storage areas will have no air emissions, provide run-off controls to prevent risks to groundwater or surface water, prevent compatibility issues with containerized waste stored in the container storage areas, prevent compatibility issues with materials of construction of the container storage bases, aisle spacing in the container storage area will be unaffected by the treatment processes, etc.

Information regarding treatment process is included in Attachment C4 Treatment. As stated MDWTP's sealing request was retracted in the January 17, 2019 deficiency submittal of Attachment C4 Treatment.

During the January 8, 2019 meeting DEQ agreed to postpone discussions regarding the design capacity until technical deficiencies are available. The performance standard for macroencapsulation requires the encapsulating material to completely encapsulate debris and be resistant to degradation by debris, contaminants associated with the debris and materials into which it may come in contact after placement. The encapsulants proposed are similar to products utilized in landfill liners and there is no reason to believe that it would not meet the specified criteria.

7. *Include justification for exempting waste, potentially capable of causing detectable odor at the facility property line, from sampling for acceptance. According to the current WAP, Section 4.2, the Odor (Incidental) test is used to detect potentially problematic odors in routine laboratory handling of a sample, which should indicate if the waste will cause odors. Identify whether this test is no longer being conducted or what is used as a replacement to obtain the information. The response failed to answer the question.*

This has been described in A2.B.1(d). B.2 has been modified to include the incidental odor screening test. The facility has an obligation to operate without disrupting the comfort of the public. As a result precautions should be taken to minimize the possibility of generating nuisance odors. We agree that exemptions must be limited. It is in the best interests of the facility to visually inspect and sample as much waste as possible. In that spirit, the list of exceptions were thoroughly reviewed and some exceptions have been removed. The changes also consider the specific comments provided throughout these deficiencies.

8. *Include procedures for determining a significant manifest discrepancy and complying with R 299.9608(6) and 40 CFR 264.72(c) and (g), and to distribute copies of the manifest pursuant to subrules (1) and (2) of R 299.9608. The response stated the significant manifest discrepancies according to the pre-acceptance discrepancy procedures provided in A2.B.2. This section fails to explain what is considered a significant manifest discrepancy. It jumps to steps taken after the discrepancy is discovered. Section A2.F.2 defines a significant manifest discrepancy as a "variation in one-piece count or misrepresentation of the type of waste or corrosive rather than flammable". However, this definition is not complete according to 40 CFR 264.72(b). MDWTP receives bulk waste loads,*

truckloads of containers, and other containers which should be accounted for in the procedures.

Two types of discrepancies can arise during waste pre-acceptance: 1) manifest discrepancies and 2) discrepancies between the incoming waste shipment and its profile. Section A2.B.2 is not clear regarding how MDWTP handles each type of discrepancy.

Significant manifests discrepancies are specifically defined by 40 CFR 264.72(b). This citation has been incorporated in this section to indicate it is defined by the rule. Clarification has been added to A2.B.2 in order to make it clearer that the discrepancy process is intended for the waste type and shipping documents.

9. Clarify what is meant by the word "received" in the following statement in Section A2.B.1: "If the discrepancy cannot be resolved, received waste will be rejected to the generator or an alternate facility." If the waste is received at the facility for treatment or disposal, why would it be rejected?

Identify the locations where rejected waste is stored until it is rejected to the generator or an alternate facility (See Sections A2.B.1 and A2.B.2).

Identify the procedures for partial rejected waste loads [40 CFR 264.72(e)].

Waste received must be accepted in order to be treated or disposed of. Owners and operators may choose to evaluate the waste upon arrival while it remains in possession of the transporter or they may stage the waste relinquishing the transporter. In both instances the waste is received as it has arrived at its designated facility, and the TSD facility must make a decision on whether the waste may be accepted or if a rejection is necessary. This is completed through the procedures identified in the WAP. During this process a discrepancy may be discovered.

Upon discovering a significant manifest discrepancy (which include discrepancies in waste types) owners and operators must attempt to reconcile the discrepancy with the generator. If it is not resolved within 15 days a notification must be provided to the administrator.

The following has been added to A2.B.2:

"If it is determined that the waste requires a rejection the transporter may retain custody while arrangements are made to reject the material, or the designated facility must provide for secure, temporary custody of the waste. The physical, ignitable and reactive properties of the waste is evaluated in order to determine whether the material can be safely stored in the container storage areas and/or placed in transportation. Re-packaging may be required in order to meet all pre-transportation requirements to place the container back in transportation."

40 CFR 264.72(e) clearly defines how the manifests must be prepared for a rejection. The thorough procedures have not been incorporated in the WAP as the manifesting rules continue to change with the e-manifest requirements, and it 40 CFR 264.13 does not appear to require this information.

CHEMICAL AND PHYSICAL WASTE ANALYSIS PLAN (WAP)

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being R 299.9504, R 299.9508, and R 299.9605, and Title 40 of the Code of Federal Regulations (CFR) §§264.13(a), (b), and (c) as well as §§270.14(b)(2) and (3) establish requirements for chemical and physical analyses and WAPs at hazardous waste management facilities. All references to the 40 CFR citations specified herein are adopted by reference in R 299.11003

This license application addresses requirements for chemical and physical WAPs at the hazardous waste management facility for the Michigan Disposal Waste Treatment Plant (MDWTP) and Wayne Disposal Inc. (WDI) in Belleville, Michigan. The information included demonstrates how the facility meets the chemical and physical analyses requirements for hazardous waste management facilities. All activities associated with the WAP will be conducted at the MDWTP and WDI, Belleville facility unless otherwise specified.

Type of applicant: *(Check as appropriate)*

- ☒ Applicant for Operating License for Existing Facility
- ☐ Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility

Type of Facility: *(Check as appropriate)*

- ☒ On-site Facility (generates hazardous waste)
- ☒ Off-site Facility (accepts hazardous waste from other generators)

Type of Units to be Constructed or Operated at the Facility: *(Check as appropriate)*

- ☒ Containers
- ☒ Tank(s)
- ☐ Waste Pile(s)
- ☒ Landfilled Waste
- ☐ Waste Incineration
- ☐ Land Treatment
- ☐ Miscellaneous Unit(s)
- ☐ Boilers and Industrial Furnaces

Ensure that all samples collected for the purposes of waste characterization are collected, transported, analyzed, stored, and disposed by trained and qualified individuals in accordance with the Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan should, at a minimum, include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication No. SW-846, Third Edition, Chapter 1 (November 1986), and its updates.

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A2 INTRODUCTION

Michigan Disposal Waste Treatment Plant (MDWTP) and Wayne Disposal Inc. (WDI) are commercial facilities that receive wastes generated from off-site locations. MDWTP and WDI have developed this shared chemical and physical waste analysis plans to ensure that only wastes that are authorized and properly characterized are received at the facility. Pre-approval, pre-acceptance, acceptance, treatment and post-treatment evaluations are completed by qualified personnel (individuals who are familiar with the procedures essential to executing the requirements of the WAP). All onsite and offsite generated waste will be evaluated through the procedures outlined in this plan.

All analysis performed pursuant to this WAP will be consistent with the QA/QC Plan maintained at the facility. All samples of the facility's waste being characterized will be collected, transported, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan.

The parameters selected for analysis of wastes managed by the facility and the rationale for their selection is based on the following:

- physical/chemical characteristics of the waste;
- the regulatory and operating license requirements for treatment and/or storage at MDWTP or disposal at WDI;
- the information and analytical data supplied to the facility by the generator; and
- the process control data necessary to manage, store, treat, or dispose of the waste at MDWTP or WDI.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, MDWTP and WDI will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.314, 264.1034, 264.1063, 264.1083, 268.4(a), and 268.7 in the facility operating record until closure of the facility. The current version of this plan shall be available on-site.

A2.A PRE-APPROVAL

[R 299.9504(1)(c) and 40 CFR §270.14(b)(2)]

The pre-approval process outlines procedures taken by the TSD facility in order to characterize their on-site generated waste. It also defines the information that the TSD facility requires for off-site generated waste in order obtain detailed chemical and physical analysis that is representative of the waste.

A2.A.1 WASTE TYPE DESCRIPTION

(GENERATED ON-SITE WASTES AND OFF-SITE WASTES THAT MAY BE RECEIVED)

[R 299.9504(1)(c) and 40 CFR §270.14(b)(2)]

A2.A.1(a) Acceptable Waste Type Description

The waste types that may be generated onsite or received from offsite generators and are acceptable for treatment and/or storage at MDWTP or disposal at WDI are hazardous waste identified by waste code in Table D.2, nonhazardous (including asbestos waste), TSCA regulated PCB waste, and radiological waste identified in Appendix B. Additional information regarding the waste that may be received is outlined below.

Characteristic waste codes that may be approved into MDWTP or WDI are provided in Table D.2 along with land disposal restriction (LDR) requirements for treatment and disposal. Waste with analytical concentrations exceeding characteristically hazardous levels are required to be characterized with the

appropriate waste code. Waste exceeding applicable land disposal restrictions will be approved for treatment at MDWTP or transshipment to an off-site location for further treatment. Waste meeting applicable LDRs will be approved for land disposal at WDI. If disposal will occur at a Subtitle D landfill the waste must be decharacterized and meet applicable LDRs prior to disposal.

Generator process knowledge strongly contributes to the documentation of the applicability of a listed waste code. Analytical concentrations exceeding applicable land disposal restrictions may be approved for treatment at MDWTP or be transshipped to an off-site location for further treatment. Waste meeting applicable LDRs may be disposed of at WDI, but will carry the waste code through to disposal. Listed waste codes that may be delisted through treatment will be treated to the appropriate standard and may be disposed of at WDI or sent to an off-site Subtitle D landfill. This includes waste streams in which generators have obtained and executed the requirements of their delisting permits which would allow MDWTP or WDI to accept the material and transship to a Subtitle D landfill (or dispose of at WDI) and also accounts for solid waste that has been exempted by 40 CFR 261.3(c) and (g) from being a hazardous waste after treatment occurs (i.e. K062 is not applicable when the process waste is treated with lime).

Generator process knowledge, analysis, and/or information provided on the waste characterization form (see A2.A.2) will be used to demonstrate waste mixtures and wastes with multiple codes are properly characterized. Each waste that has more than one characteristic will be identified with a number for each characteristic. Waste identified as meeting a listing and exhibiting a characteristic will be identified with the listed waste code for the purpose of manifesting, etc.

The laboratory packs accepted at the facility are not land disposed without meeting applicable Subpart D treatment standards. Lab pack waste received or generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received and processed to applicable 268.40 treatment standards.

Hazardous debris accepted at the facility will be treated using one of the technologies identified in Table 1 of 40 CFR §268.45. Debris as defined in 40 CFR 268.2 may be treated at MDWTP prior to land disposal at WDI or an alternate Subtitle C landfill utilizing the immobilization technologies defined in 40 CFR 268.45 in order to meet the alternative treatment standards for hazardous debris provided in 40 CFR 268.45.

Rule 299.9228 establishes an alternate set of standards under which universal wastes may be managed instead of full regulation as hazardous waste under these rules. Waste that meets the criteria established by the rule may be transshipped from the facility for recycling or disposed of in accordance with the requirements of the rule.

Asbestos containing waste may be accepted at the facility for treatment or disposal. This includes asbestos waste that also contains PCBs and/or is also a RCRA hazardous waste is exempt from the requirement of a sample of waste for review and acceptance and visual inspection at the facility if all of the following conditions are met:

- ◆ The waste contains $\geq 1\%$ asbestos;
- ◆ The waste is properly bagged/containerized;
- ◆ Bulk asbestos waste will be handled in such a manner as to not cause any visual emissions;
- ◆ The generator verifies that the asbestos containing waste contains no free liquids and it is so stipulated on the approval.

Any time MDWTP treats, stores, or disposes of ignitable or reactive wastes, or mixes incompatible wastes, the facility will take precautions to prevent reactions which:

- ◆ Generate extreme heat or pressure, fire or explosions, or violent reactions
- ◆ Produce uncontrolled toxic mists, fumes or gasses in sufficient quantities to threaten human health or environment
- ◆ Produce uncontrolled flammable fumes or gasses in sufficient quantities to threaten human health or environment;
- ◆ Damage the structural integrity of the device or facility
- ◆ Through other means threaten human health or environment.

Wastes which are banned from landfilling by regulations promulgated under 40 Code of Federal Regulations (CFR) Part 268 unless the wastes meet the applicable Land Disposal Restriction (LDR) treatment standards or a variance has been obtained from the administrator. The following variances have been approved:

- ◆ May 23, 2016 Guardian Industries Corporation (MID 048 784 896) Air Pollution Control Dust
- ◆ December 15, 2017 Strebor, Inc. (MID 005 342 134) Spent Carbon, Contaminated Soil, and Personal Protective Equipment.

A2.A.1(b) Prohibited Waste Type Description

The following waste streams are prohibited at MDWTP:

- ◆ Ignitable wastes (D001 when flashpoint is <140F) with a flashpoint <90F may be stored but may not be treated.
- ◆ Reactive wastes (D003, K027, K044, K047, K161, and K045):
 - Wastes identified in R299.9212 (3)(a, f, g, h) may not be stored or treated.
 - Wastes identified in R299.9212 (3)(b, c, d) may be stored only in the NCSA and transshipped for off-site treatment.
 - Wastes identified in R299.9212 (3)(e) may be stored in any permitted container storage area.
 - D003 deactivated (no longer exhibits the characteristic of reactivity) and wastes identified in R299.9212 (3)(e) as sulfide bearing wastes may be received for storage and treatment.
- ◆ Dioxin-containing waste requiring treatment for F020-F023, F026-F028, K043, and K099 may be stored and/or treated for constituents other than dioxins and furans (because dioxins and furans already meet applicable treatment standards prior to acceptance at the facility and other constituents of concern may still require treatment.)

MDWTP and WDI do not accept low level radioactive mixed waste. Appendix B Radiological Waste Acceptance Criteria identifies radiological waste that is acceptable.

Additionally, the following waste types are **NOT ACCEPTABLE** for disposal at WDI, but may be accepted at MDWTP:

- ◆ Waste prohibited from land disposal as defined by 40 CFR 268, Subpart C, will not be disposed of at WDI.
- ◆ Ignitable wastes as described in R299.9212(1);
- ◆ Reactive wastes as described in R299.9212(3) unless the waste no longer exhibits the characteristic of reactivity;
- ◆ Bulk or non-containerized liquid waste or waste containing free liquids;
- ◆ Containers holding free liquids, including laboratory packs;
- ◆ Wastes which will:

- Adversely affect the permeability of the clay liner;
- Produce a leachate that is incompatible with the synthetic liner, leachate collection system (LCS), discharge piping, and the off-site sewer system;
- Generate gases which will adversely affect the permeability of the clay cap; and
- Create a violation of 1975 PA 348 and rules promulgated thereunder

A2.A.1(c) Onsite Generated Waste

Housekeeping, maintenance, laboratory and waste processing and disposal activities may result in the on-site generation of waste at the facility (i.e. landfill leachate filter cake and process debris generated as a result of waste handling) and may include any of the acceptable wastes listed in the Table D.2. Waste generated at the facility is evaluated in the same manner as off-site waste utilizing procedures provided in the sections below. Laboratory reports and waste characterizations are maintained at the facility as part of the operating record. Hazardous waste generated at the facility is also reported to the administrator as part of the facility operating report in accordance with Rule 610(3).

All samples collected for the purposes of on-site waste characterization are collected, analyzed, stored, and disposed of by trained and qualified individuals in accordance with the Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan includes written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication SW-846 Compendium.

A2.A.2 PRE-APPROVAL WASTE CHARACTERIZATION REQUIREMENTS [R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(b)(5)]

The initial step of the waste stream approval process is a review of the waste characterization as prepared by the generator. A person who generates a solid waste, as defined in 40 CFR 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. Without relieving a generator of its responsibility to properly characterize its waste for purposes of treatment, storage and disposal, and to fully and accurately communicate that information to MDWTP or WDI in accordance with this WAP, MDWTP and WDI acknowledge their responsibility to comply with 40 CFR 264.13 by obtaining all information which must be known to treat, store or dispose of the waste in accordance with Parts 264 and 268 of the RCRA regulations.

To aid generators in complying with the requirements and to ensure the TSDF obtains sufficient chemical and physical information from the generators, MDWTP and WDI require the submittal of waste characterization information. In accordance with the generator requirements set forth in 40 CFR 262.11, MDWTP and WDI will require the following waste profile information for initial waste shipments from all off-site generators and onsite generated waste prior to processing the waste:

- ◆ Generator information
 - Generator Name
 - EPA ID Number
 - Address
 - Phone Number
- ◆ Waste Description
 - A hazardous waste determination for each solid waste at the point of waste generation, before any dilution, mixing, or other alteration of the waste may have occurred such that the RCRA classification of the waste may change.
 - A determination of the applicability of listed hazardous waste codes using knowledge of the waste to determine whether the waste meets any description(s) under subpart D of 40 CFR part 261.
 - A determination of whether the waste exhibits one or more hazardous characteristics.

- A determination of the ignitability and/or reactivity of waste
- A determination of whether the waste qualifies as a Universal Waste
- Whether biodegradable sorbents have been added to the waste.
- Physical characteristics of the waste (i.e. consistency (including free liquids), odor)
- ◆ Identification of Exclusions and Exemptions
 - Materials excluded from the definition of solid waste
 - Solid waste excluded from the definition of hazardous waste
 - Hazardous waste exempt from Subtitle C regulations
 - RCRA Waste with <500ppm VOC bearing waste
 - Knowledge of the waste provided with the generator's pre-approval information is relied upon to make a determination on whether the waste is exempt from Subpart CC. Examples of acceptable knowledge includes information included in manifests, shipping papers or waste certification notices.
- ◆ LDR
 - 40 CFR 268.7(a)(1) Generators must determine whether their waste is subject to the LDRs for each hazardous waste at the point of generation,
- ◆ Generator certification
 - Written or electronic signature from individuals authorized to make waste characterization decisions certifying information provided is representative, true and accurate.

For the purposes of compliance with 40 CFR Part 268 or if the waste is not listed in Subpart D of 40 CFR Part 261 (R299.9213), per 40 CFR 262.11, the generators must determine whether their waste is identified in Subpart C of 40 CFR Part 261 (R299.9212) by either:

- ◆ Testing the representative samples of the waste according to the methods set forth in Subpart C (of 40 CFR Part 261) or according to an equivalent or recognized laboratory method
- ◆ Applying knowledge of the hazard characteristic in light of the materials or processes used.
 - Acceptable knowledge that may be used as part of the basis for acceptable knowledge include but are not limited to: waste origin, composition, feedstock, knowledge of products, by-products, and intermediates produced by the manufacturing process; material balances for the source or process generating the hazardous waste; chemical and physical properties of chemicals used or produced by the process or otherwise contained in the waste, constituent-specific chemical test data for the hazardous waste from previous testing that are still applicable to the current waste; previous test data for other locations managing the same type of waste; knowledge based on information included in manifests, shipping papers, waste certification notices, and Safety Data Sheets; or other reliable and relevant information

The required information provided by the generator provides the facility with detailed information regarding the chemical and physical properties which represent the waste. If the generator chooses to utilize knowledge they may do so only if they provide a sufficient basis for the knowledge that supports their characterization. If the profile information is incomplete, conflicts with the generator's determination or if MDWTP/WDI are unable to make a determination (Appendix A outlines how determinations are made) because of a lack of information, the generator or their representative is contacted in order to obtain additional information before the approval process will continue. If the requested information cannot be obtained an approval will not be issued. Representative samples may be requested to further evaluate the waste and verify information provided by the generator, but are not required.

Once it is determined that the information is complete a handling method and approval number is assigned to the waste stream. That handling method identifies the treatment(s) (if any), disposal destination (Subtitle C or D), or the need for transshipment to an off-site facility. Waste streams that do not require additional treatment may be assigned a handling method that allows for direct disposal at WDI.

An approval letter is sent to the generator, serving as notification that the waste as represented may be shipped to the facility, and that the facility has the appropriate permit(s) to accept the waste. All approval files are maintained in the facility operating record in a paper or other archival form. Approval files with no shipments before expiration will not be kept in the facility operating record.

A2.A.3 SAMPLING AND SELECTION OF WASTE ANALYSIS PARAMETERS

[R 299.9605(1) and 40 CFR §264.13(b)(1)]

A2.A.3(a) On-site Generated Waste

Knowledge of the process and analytical testing will be used to determine if the hazardous wastes exhibit one or more characteristics to: (1) ensure compliance with LDR regulations and (2) provide waste compatibility information to determine appropriate waste storage. Generator process knowledge is also utilized to document of the applicability of a listed waste code including a determination of whether waste is derived from listed waste. When generator knowledge is not enough to characterize a waste stream generated at the facility MDWTP and WDI will select appropriate analytical parameters based on what is reasonably expected to be present by using knowledge of the generating process.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

The rationale for what sampling equipment will be used is determined by considering a number of factors. Waste properties are considered when determining the type of sampling equipment that will be used. Sample devices will vary according to whether the sample is liquid, solid or multiphasic and whether the liquids are viscous or free-flowing and solids are hard, soft, powdery, or clay-like. Table A.1 outlines typical sampling equipment that may be utilized based on the physical state of the waste.

Ease of use of the sampling devices is a contributing factor in determining which specific sampling tool will be utilized. For example, a coliwassa is commonly utilized to collect samples from multiphasic waste streams. However, if sampling in a ditch a dipper may equally be capable of collecting a representative sample and is a more practical to use.

If upon visual inspection the waste is observed to be heterogeneous, as much as practicable, the sample will be composed of each layer or each material will be sampled individually and either composited based on estimated proportions or evaluated separately. A composite may be used for purpose of characterization and a representation of the waste at the point of generation and how the waste may behave during treatment of the commingled material. The individual grabs may be used to determine the worst case scenario and establish conservative handling procedures.

Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampler to prevent cross-contamination of the sample and to ensure compatibility of materials. All equipment used in the collection of waste samples will either be disposable (e.g., scoops or container thieves) or sufficiently cleaned to remove observable contamination prior to sampling. Sampling equipment will either be cleaned by wiping, water-rinsing into a container, or managing the equipment as a waste. Decontamination is only required if the material previously sampled is incompatible with the waste that will be sampled or if contamination on the sampling equipment may dilute the sample being collected.

Minimum sample sizes and preservation techniques utilized for the specific constituent types are outlined in Table A.2. Preservation requirements may not be necessary if samples are brought directly to the laboratory after sampling and analyzed upon receipt.

Table A.3 lists the waste analysis parameters that will be completed for the purpose of characterization of onsite waste, and parameters that may be needed in order to make a pre-approval determination for onsite generated waste. The table includes the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference.

In the event a third-party laboratory will be utilized to perform testing, the sampling requirements will be consistent with the third-party laboratory instructions and alternative but equivalent analytical methods may be utilized. Where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste if knowledge or other supporting information cannot be used.

The testing and sampling frequency is determined utilizing knowledge of the waste streams generating process and history of previous analytical results (when available). A generating process that is not listed (including derived from) and that does not have any characteristically hazardous constituents placed in or generated as a result of the generating process, may not require any testing as knowledge may be utilized to determine it is not hazardous. When a generating process consistently has the same input or minor variations in the input, it may not require any additional sampling or analysis after the initial testing as the previous analysis and process knowledge may be suitable to determine the characterization (which includes the constituents subject to treatment). Waste streams that have some fluctuations in their input may be evaluated periodically in order to confirm the constituents present are consistent with previous analytical concentrations and characterizations. When a waste streams input is highly variable it will be sampled and analyzed more frequently and in some instances may require analysis prior to each disposal. Waste streams may also be managed conservatively characterizing them as hazardous and treating for all constituents that may potentially be subject to treatment.

TABLE A.1 REPRESENTATIVE SAMPLING PROCEDURES FOR ONSITE GENERATED WASTE

The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined.

Sampling Method/ Rationale	Sampling equipment	Viscous liquid	Single-Phase Liquid	Multi-Phase Liquid	Free flowing liquids and slurries/sludge	Hard Packed Solids/ Sludge	Soil or soil-like material	Dry powders and granules	Moist powders and granules
SW-846, Ch. 9	Dipper/Cup*	Y	Y	Y	Y	N	N	N	N
	Coliwasa/Tube/Drum Thief	Y	Y	Y	Y	N	N	N	N
	Thief	N	N	N	N	N	N	Y	N
	Trier	N	N	N	N	Y	Y	Y	Y
	Scoop/Cup*/Spoon/Trowel	N	N	N	N	Y	Y	Y	Y
	Auger	N	N	N	N	Y	Y	Y	Y

*Cup may act as dipper and/or a scoop

TABLE A.2 SAMPLING PRESERVATION

Parameter	Matrix	Minimum Sample Size	Hold Time	Preservation (when not immediately analyzed)	Container Type
Semivolatile	Water	4 oz.	7 days	4°C	Amber glass with PTFE liner
	Solid	4 oz.	14 days	4°C	Glass with PTFE liner
Volatiles	Water	4 oz.	14 days	4°C/ HCL pH<2 (approximately 4 drops), no headspace	2X 40mL VOA vials
	Solid	4 oz.	14 days	4°C	Glass with septa and minimal headspace
Cyanides	Water	4 oz.	14 days	4°C / NaOH to pH >12	Plastic or Glass
	Solid	4 oz.	14 days	4°C	Plastic or Glass
Pesticides	Water	4 oz.	7 days	4°C pH 5-9	Amber glass with PTFE liner
	Solid	4 oz.	14 days	4°C	Glass with PTFE liner
PCB	Water	4 oz.	7 days	4°C	Amber glass with PTFE liner
	Solid	4 oz.	14 days	4°C	Glass with PTFE liner
Herbicide	Water	4 oz.	7 days	4°C	Amber glass with PTFE liner
	Solid	4 oz.	14 days	4°C	Glass with PTFE liner
Mercury	Water	4 oz.	28 days	HNO3 to pH<2	Plastic/glass
	Solid	4 oz.	28 days	4°C	Plastic/glass
Metals	Water	4 oz.	6 Months	HNO3 to pH<2	Plastic/glass
	Solid	4 oz.	6 Months	NONE	Plastic/Glass
TCLP Metals/Hg	Solid	5 oz.	28 days	NONE	Plastic/Glass

TABLE A.3 PRE-APPROVAL/WASTE CHARACTERIZATION ANALYSIS PROCEDURES

Alternative methods may be required on a case by case basis in order to properly analyze the waste

Table D.2 provides waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Color	A comparison of the incoming wastes color to waste information presented during pre-approval.	Visual Assessment	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability (when knowledge must be supported)
Consistency	A comparison of the incoming wastes consistency to waste information presented during pre-approval.	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris.	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Odor (Incidental)	A comparison of the incoming wastes odor to waste information presented during pre-approval. Intended to detect potentially problematic odors that were misrepresented in pre-approval information.	Potentially problematic odors detected in the routine laboratory handling of a sample may result in rejection of the load unless the waste can be managed in such a way as to minimize odor emissions.	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
pH	A comparison of the incoming wastes pH to waste information presented during pre-approval.	Internal Procedure: The pH of the material will be verified using wide range pH paper (mentioned in SW846 9041) on a single aliquot of waste. If not visually apparent after looking at pH paper, an electronic measurement may be made performed using (SW846 9040).	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Ignitability	Quantify flashpoint of waste that failed the match test to confirm D001 applicability when flashpoints are <140F. A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	SW 846 1010A or SW 846 1020B	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Reactivity-Water	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required; and whether the waste reaction occurs may qualify as water reactive as specified by 40 CFR 261.23.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste is mixed rapidly with approximately ten mls of water.	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
H2S Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: Mix waste in cup with acid. Approximately ten mls of waste is mixed with ten mls HCl solution to acidify the waste. A minimum of Detect H2S gas with lead acetate paper, gas tube or a hydrogen sulfide monitor.	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Free Liquids	Intended to verify presence of free liquids	SW846, 9095 Paint Filter Liquids Test	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Cyanide Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur. A violet color may be an indication that cyanides are present. A dark purple is an indication that the cyanide concentrations are potentially high. The detection when not expected or a dark color change will trigger an investigation of the waste.	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability

TABLE A.3 PRE-APPROVAL/WASTE CHARACTERIZATION ANALYSIS PROCEDURES

Alternative methods may be required on a case by case basis in order to properly analyze the waste

Table D.2 provides waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Cyanide	Quantification of Cyanide Concentration	SW846 9010 and 9014 Total and Amenable Cyanide: Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
PCB	Quantification of PCB Concentration	SW846 8082 PCBs by GC	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Metals/Mercury	Quantification of Regulated Metal Concentration	SW846 6010, SW846 7473	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Semi-volatiles	Quantification of Semi-volatile Concentration	SW846 8270 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Volatiles	Quantification of Volatile Concentration	SW846 8260, 8015 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Pesticides	Quantification of Pesticide Concentrations	SW846 8081 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Herbicides	Quantification of Herbicide Concentration	SW846 8151, 8270 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> •Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability

A2.A.3(b) Off-site Generated Waste
[R 299.9605(1) and 40 CFR §264.13(B)(1)]

As stated in 262.11, a person who generates a solid waste, as defined in 40 CFR 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. The information provided to MDWTP and WDI is used as the basis for the chemical and physical analysis, and generators are responsible for ensuring the information is true and accurate. Generators or an authorized representative must certify that the information provided is representative of the waste. Highly variable waste streams are urged to be characterized conservatively in order to require treatment of all constituents of concern that are reasonably expected to be present in the waste. Additionally, generators may be asked to provide multiple data points and information in order to demonstrate the characterization.

If the generator has a generating process that is not listed (including derived from) and that does not have any characteristically hazardous constituent placed in or generated as a result of the process, they may determine no testing is required and utilize knowledge to determine it is not hazardous. When a generating process consistently has the same input or minor variations in the input, the generator may not need any additional sampling or analysis after the initial testing as they may deem the previous analysis and process knowledge as suitable to determine the characterization (which includes the constituents subject to treatment). Waste streams that have some fluctuations in their input may be evaluated periodically in order to confirm the constituents present are consistent with previous analytical concentrations and characterizations. When a waste streams input is highly variable it will be sampled and analyzed more frequently and in some instances may require analysis prior to each disposal. Waste streams may also be managed conservatively characterizing them as hazardous and treating for all constituents that may potentially be subject to treatment. Waste streams that may have varying characterizations may be broken up into multiple approvals segregating the waste according to the appropriate characterization and providing justification on they intend to segregate the waste. If necessary MDWTP and WDI may choose to conservatively manage the waste, however as 262.11 states the generators are ultimately responsible for the determination at the point of generation.

Confirmatory analysis may be completed in order to corroborate a generator's characterization. This may be done at the request of the generator, or if the waste stream is suspected to have additional contaminants of concern than identified by the generator. Examples of situations which may cause the TSD facility to suspect that additional contaminants are present include, but are not limited to process information that introduces regulated contaminants not identified by the generator; constituents of concern commonly associated with a process or industry (i.e. benzene from the petroleum industry); or a site history that indicates regulated contaminants of concern may have been present at the facility (i.e. soil from a dry cleaning operation failing to identify trichloroethylene or tetrachloroethylene). When samples are provided prior to receipt generators will be responsible for representative collection of the waste. When confirmatory analysis is performed while waste is onsite, sampling will be performed as specified in A2.B.1(b) and analysis will be completed as specified in Table A.3. Discrepancy procedures outlined in A2.A.5 will be followed if analysis differs from the generator characterization.

A2.A.4 PRE-APPROVAL LAND DISPOSAL RESTRICTIONS (LDR) EVALUATION

[R 299.9605(1) and 40 CFR §264.13(B)(1)]

Onsite generated waste streams are evaluated for LDR applicability and prohibition of land disposal restriction concurrently with the hazardous waste determination made in accordance with 40 CFR 262.11. This is done by determining if the hazardous waste meets treatment standards, as applicable, in 40 CFR 268.40, 268.45 and 268.49 by testing the waste or using knowledge of the waste. When testing of the waste occurs, SW-846 methods identified in Table A.3 will be utilized. Characteristic waste along with underlying hazardous constituents (UHCs) reasonably expected to be present above their concentration-based levels (see Table UTS in §268.48) at the point of generation, meet the applicable land disposal restrictions.

Off-site waste will be reviewed by qualified personnel for concurrence with LDR applicability and prohibition of disposal. The determination is based on information provided by the generator as required by 40 CFR 268.7(a)(1) and this plan. Additionally, generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to determine whether waste meets treatment standards in 40 CFR 268.40, 268.45 and 268.49 (as applicable). For characteristically hazardous waste that is subject to alternative treatment standards, generators have an obligation to identify whether UHCs reasonably expected to be present above their concentration-based levels (see Table UTS in §268.48) at the point of generation, meet the applicable land disposal restrictions.

For both onsite and off-site generated waste, constituents exceeding applicable LDRs will be treated on-site by acceptable treatment methods or sent off-site to a facility that can appropriately treat the waste.

In the event that the generator notification (required by 268.7(a)(2)) states, "*The hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination*", MDWTP will test the waste according to the specification of this plan and such testing will be performed by the methods identified in Table A.3.

A2.A.4(a) Dilution and Aggregation of Wastes

[R 299.9627 and 40 CFR §268.3]

Listed and characteristic wastes, if destined for land disposal, may not be diluted from the point of generation to the point of land disposal. Knowledge of dilution will result in MDWTP and WDI managing the waste as prohibited from land disposal and proper treatment will occur.

The constituents of concern for on-site generated waste are identified via process knowledge and/or analysis of the waste to determine whether the constituents require treatment. Constituents that may fluctuate will either be analyzed more frequently for a determination of their treatment requirements or the waste will conservatively be managed to require treatment of those constituents.

A2.A.5 PRE-APPROVAL GENERATOR WASTE CHARACTERIZATION DISCREPANCIES

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and (4), 264.13(b)(c), and 264.72]

Waste streams are reviewed with respect to waste characterization requirements and the Land Disposal Restrictions (LDR) requirements in 40 CFR Part 268. Waste generators or individuals with the authority to make characterization and LDR decisions must certify information provided is representative, true and accurate. The analytical data, waste type, process description, waste chemical and physical characteristics provide the facility with sufficient information to decide if the waste can be accepted or if additional data is required before a decision can be reached. If the generator does not provide sufficient information, the

generator or their representative is contacted and requested to provide further information before the approval process will continue.

The profile, with the supporting information as required, forms the basis of information upon which the facility determines if the waste can receive an approval for disposal at WDI or storage, transshipment and treatment at MDWTP. When it is determined that a waste stream can be safely handled at the facility in accordance with the operating license requirements, it is assigned a unique identification number and a management process that identifies how the waste will be handled at the facility once accepted. An approval letter is sent to the generator directly or via the customer, serving as notification that the waste as represented may be shipped to the facility, and that the facility has the appropriate permit(s) to accept the waste. All approval files are maintained in the facility operating record in an electronic, paper or other archival form. Approval files with no shipments received upon annual review will not be kept in the facility operating record.

A2.A.6 SUBSEQUENT WASTE SHIPMENT PROCEDURES
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and 264.13(b)(4)]

The facility requires that the profile, supporting information, and/or documentation be updated whenever any one of the following occur:

- ◆ There has been a change in the process generating the waste. When a change in a waste stream's characterization or treatment requirements occurs generators must provide notification of the change.
- ◆ Inspection of a waste shipment reveals that the waste does not meet the description/classification of the approval values.

The initial evaluation of waste from each generator will be reviewed or repeated at least once in a calendar year to ensure that the information provided is accurate and up-to-date. For each hazardous waste approval the generator will be provided with a notification that informs them that their annual review is required. The generator must provide certification that the information previously is factual and accurate representation of the waste. If changes have occurred to the waste stream the generator is informed not to provide this certification. Changes that impact the wastes characterization result in an amendment of the existing approval or if the changes are extensive a new approval may be required. Waste that has not received a certification within one year of the last review will not be received at the facility until a certification is obtained or any changes in the characterization have been approved.

A2.B PRE-ACCEPTANCE

The pre-acceptance process outlines screening procedures taken by the TSD facility in order to inspect and, if necessary, analyze hazardous waste received at the facility in order to confirm the waste received is consistent with properties identified in the pre-approval process.

A2.B.1 PRE-ACCEPTANCE PROCEDURES

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

Waste shipments arrive at the facility in the following containers:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Drums | <input checked="" type="checkbox"/> Totes | <input checked="" type="checkbox"/> Tanker trucks |
| <input checked="" type="checkbox"/> Carboys | <input checked="" type="checkbox"/> Wrangler box | <input checked="" type="checkbox"/> Filter bags |
| <input checked="" type="checkbox"/> Roll-off boxes | <input checked="" type="checkbox"/> Vacuum trucks | |

☒ Other: Dump trailer, Flo- bin, Cubic yard boxes, etc.

***All container types cannot be accounted for. Generators are responsible for ensuring waste is properly packaged for transportation. US Ecology does not have any container type restrictions in order to accommodate all waste types that may be generated.*

Each manifested line item receives a unique receipt number that contains approval information (handling method) determined during the pre-approval process described above. Containers that will be placed in storage will be labeled with the receipt information. During the pre-acceptance process MDWTP/WDI will perform all of the following tasks on waste received from off-site generators:

- Review paperwork
- Visually inspect the waste as required
- Perform waste screening/fingerprint analysis of waste as required

After all paperwork has been reviewed and required sampling and screening is completed waste received is either accepted for treatment, storage or disposal, discrepant pending a resolution, or rejected. Discrepancy notifications will be made to the generator if the review process reveals inconsistencies with the paperwork or the waste. Once discrepancies are resolved the received waste will be accepted for treatment and disposal. If the discrepancy cannot be resolved, received waste will be rejected to the generator or an alternate facility.

It should be noted that the facility may choose to collect additional samples and perform additional analysis in order to ensure safe and compliant management practices.

A2.B.1(a) Paperwork Review

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

All shipments of wastes (subject to LDRs) received at the facility will be accompanied by appropriate generator notification (as required) in accordance with R 299.9627 and 40 CFR §268.7 as well as an appropriate shipping paper. Complete shipping and LDR paperwork will be compared to information submitted by the generator during the pre-approval process to ensure the accuracy of information provided. The LDR notification will be verified to confirm the waste codes and constituents subject to treatment are consistent with pre-approval information which established the handling method assigned to

the waste. The manifest will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment.

Any discrepancies in the notification and associated manifest, or waste approval information will prevent treatment or disposal unless additional, satisfactory, clarifying information is provided by the generator.

A2.B.1(b) Sampling Methods and Frequency

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

The equipment used to obtain a representative sample of the waste to be evaluated are summarized in Table B.1. The purpose of the sampling (when necessary) is to determine if the material in the waste containers conforms to the information provided by the generators. The sampling is not intended to characterize the waste. It is merely intended to compare the information provided during the pre-approval process to the waste received.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

The rationale for what sampling equipment will be used is determined by considering a number of factors. Waste properties are considered when determining the type of sampling equipment that will be used. Sample devices will vary according to whether the sample is liquid, solid or multiphasic and whether the liquids are viscous or free-flowing and solids are hard, soft, powdery, or clay-like. Table B.1 outlines sampling equipment that may be utilized based on the physical state of the waste and the size of the container.

If upon visual inspection the waste is observed to be heterogeneous, as much as practicable, the sample will be composed of each layer or sampled individually and either composited based on estimated proportions or evaluated separately. When possible core samples will be collected as far into the sample containers as is practicable. This is influenced by the physical state of the waste, container sample size and accessibility of the waste.

Ease of use of the sampling devices is a contributing factor in determining which specific sampling tool will be utilized. For example a roll off box of soil may not be able to use an auger to sample the waste as it would require unsafe entry into the container in order to properly core into the waste. However, sampling may occur with a scoop/cup.

Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampler to prevent cross-contamination of the sample and to ensure compatibility of materials. All equipment used in the collection of waste samples will either be disposable (e.g., scoops or container thieves) or sufficiently cleaned to remove observable contamination prior to sampling. Sampling equipment will either be cleaned by wiping, or water-rinsing into a container. Decontamination is only required if the material previously sampled is incompatible with the waste that will be sampled; contamination on the sampling equipment may dilute the sample being collected; the waste is non-hazardous or characteristically hazardous waste intended for Subtitle D disposal, but the equipment was previously utilized on listed waste. When decontamination is not feasible the sampling equipment will be properly disposed of.

Screening tests do not necessitate any sample preservation because screening is performed following the sample collection.

Upon completion of the paperwork review, non-bulk containers received are accounted for and placed in containment areas where waste screening sampling will occur. Except for material exempted in section A2.B.1(d), for shipments received from off-site locations MDWTP and WDI will visually inspect at least 10 percent of the manifested container count from each unique non-bulk approval number per shipment with at least 2 containers being opened for comparison when the manifested count would require only one container. Containers which contain waste materials that are visually similar will have separate samples collected from the containers that are visually inspected. Samples will be composited by waste stream in order to form a single sample for analysis. If the containers contain waste materials that visually differ from each other, an additional 10 percent of the manifested container count from each unique non-bulk approval number per shipment will be visually inspected. To the extent possible samples will be collected of each type of differing material and individually evaluated.

Bulk containers (i.e. roll- offs, end dumps, etc) are sampled upon arrival at the facility while paperwork is being reviewed, and are placed in permitted storage or directly into permitted treatment tanks or the landfill. Except as exempted below, a grab sample will be taken from 100% of the manifested bulk containers from each unique approval number on a given manifest. If the containers contain waste materials that visually appear different, a sample will be collected of each type of differing material (to the extent possible) and individually evaluated. Grab samples will usually be collected from the top portion of the material as far down into the waste as the sampling apparatus allows. The horizontal location in which the waste is sampled is at the discretion of the sampler. Surficial grab samples can quickly demonstrated whether material sampled does or does not match the waste profile. Core samples are unlikely to be collected because of safety concerns associated with the container types and sampling equipment, but when possible they will be attempted.

The following information is included on the label:

Type of Sample	Label Requirements:
Bulk Loads	Transporter Name Truck #
Container Loads	Waste Code Manifest # Approval # Drum #

The sampling equipment and procedures described represent recommended sampling protocols for general types of waste material. Waste may require different sampling techniques than those outlined.

Table B.1 Equipment for Representative Sampling for Pre-Acceptance Screening

Sampling Method/ Rationale	Sampling equipment	Viscous liquid		Single-Phase Liquid		Multi-Phase Liquid		Free flowing liquids and slurries		Hard Packed Solids/ Sludge		Soil or soil-like material		Dry powders and granules		Moist powders and granules	
		Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk
SW-846, Ch. 9	Dipper/Cup	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
	Collwasa/Tube/Drum Thief	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
	Thief	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
	Trier	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
	Scoop/CupSpoon/Trowel	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
	Auger	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y

*Cup may act as dipper and/or a scoop

A2.B.1(c) Waste Screening and Visual Inspection of Waste
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(c)]

Visual observations and screening results of samples collected as specified in A2.B.1(b) will be recorded and compared to the profiled information.

The contents of the container will be visually inspected for the following:

☒ Color ☒ Physical State ☒ Consistency

In addition to visual inspection, Table B.2 identifies the waste screen procedures, including screening parameters, test methods, the appropriate reference (when available), and the frequency of waste screening. The screening parameters are completed in order to compare properties identified by the generator during the preapproval process to the waste received in order to verify the material received is was accurately described. They are also performed to verify potentially harmful properties of the waste.

If the results of the pre-acceptance screening agree with the pre-approval screening data, the container is accepted. If the results fall outside the profiled range of variability or produce an unexpected reaction waste discrepancy procedures identified in A2.B.2 will be triggered. If during the investigation it is determined that additional analysis is required to confirm generator information, confirmatory analysis may be performed according to A2.A.3(b).

Cyanide and H₂S screening parameters may not be required for each subsequent shipment. If the waste stream is not reasonably anticipated to exhibit a positive result from the screening parameter (based on pre-approval information provided) and the initial screening demonstrates the parameter is consistent with the pre-approval information, each subsequent shipment may not require screening for the parameter. Examples of these waste streams include, but are not limited to, waste that has been processed through a combustion process (such as incinerator ash); waste generated from air pollution control systems from a combustion process; listed waste that does not have cyanides or sulfides associated with the process; remediation waste in which the site history does not involve the use of cyanides or sulfides.

Reactivity, cyanide and H₂S screening methods are intended to identify properties of the waste that may cause an adverse reaction during handling. If the waste will be handled in a manner that does not expose it to those conditions the screening procedure is not needed to safely manage the waste. It is understood that the waste will be exposed to water within the landfill and the conditions of the leachate are consistent with the properties of dolomitic kiln dust (or an equivalent reagent) and as a result each waste stream will be screened with these conditions upon each receipt.

Subsequent shipments should remain consistent with the pre-approval information. Changes may be identified through screening procedures performed on each shipment. Communications with the generating facility will identify the cause of the change which may warrant additional screening and analysis.

Table B.2 Pre-Acceptance Analysis Procedures

Preacceptance: Incoming waste evaluation at the time of receipt to determine acceptability with permit conditions and handling procedures

Alternative methods may be required on a case by case basis in order to properly analyze the waste

*Frequencies will be completed as specified unless exempted as specified by A2.B.1(d)

Parameter	Rationale	Analytical Method	Frequency*
Color	A comparison of the incoming wastes color to waste information presented during pre-approval.	Visual Assessment	Each incoming waste stream
Consistency	A comparison of the incoming wastes consistency to waste information presented during pre-approval.	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris.	Each incoming waste stream
Odor (Incidental)	A comparison of the incoming wastes odor to waste information presented during pre-approval. Intended to detect potentially problematic odors that were misrepresented in pre-approval information.	Potentially problematic odors detected in the routine laboratory handling of a sample may result in rejection of the load unless the waste can be managed in such a way as to minimize odor emissions.	Each incoming waste stream
Radioactivity	A comparison of the incoming wastes radioactivity detection to waste information presented during pre-approval. This evaluation is intended to positively identify waste streams that may contain radioactivity, but were not identified as radiological waste during the pre-approval process.	Internal Procedure: Shipments will be compared to background radiation levels using an instrument capable of detecting radiation examples include a gamma scintillation device, dose rate meter, or an alpha/beta rate meter.	Each incoming waste stream
pH	A comparison of the incoming wastes pH to waste information presented during pre-approval.	Internal: The pH of the material will be verified using wide range pH paper (mentioned in SW846 9041) on a single aliquot of waste. If not visually apparent after looking at pH paper, an electronic measurement may be made performed using (SW846 9040).	Each incoming waste stream
Ignitability-Match Test	A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	Internal Procedure: 5 plus or minus 1 gram of liquid waste is placed in a small container. Ignition of headspace is attempted with a match for 5 seconds.	Each incoming waste stream
Ignitability	Quantify flashpoint of waste that failed the match test to confirm D001 applicability when flashpoints are <140°F. A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	SW 846 1010 or SW 846 1020	Waste streams which fail match test.
Reactivity- DKD (or equivalent reagent)	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately ten cc DKD.	Each incoming waste stream
Reactivity-Water	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required; and whether the waste reaction occurs may qualify as water reactive as specified by 40 CFR 261.23.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste is mixed rapidly with approximately ten mls of water.	Each incoming waste stream
Reactivity-Bleach	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls bleach	MDWTP: Each incoming waste stream being combined with bleach WDI: First receipt of waste stream
Reactivity-Caustic	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls sodium hydroxide.	MDWTP: Each incoming waste stream. WDI: First receipt of waste stream

Table B.2 Pre-Acceptance Analysis Procedures

Preacceptance: Incoming waste evaluation at the time of receipt to determine acceptability with permit conditions and handling procedures

Alternative methods may be required on a case by case basis in order to properly analyze the waste

*Frequencies will be completed as specified unless exempted as specified by A2.B.1(d)

Parameter	Rationale	Analytical Method	Frequency*
Reactivity-Acid	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls HCl.	MDWTP: Each incoming waste stream being combined with an acid. WDI: First receipt of waste stream
Cyanide Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur. A violet color may be an indication that cyanides are present. A dark purple is an indication that the cyanide concentrations are potentially high. The detection when not expected or a dark color change will trigger an investigation of the waste.	Minimum first receipt of waste stream, See A2.B1(c)
H2S Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: Mix waste in cup with acid. Approximately ten mls of waste is mixed with ten mls HCl solution to acidify the waste. A minimum of Detect H2S gas with lead acetate paper, gas tube or a hydrogen sulfide monitor.	Minimum first receipt of waste stream, See A2.B1(c)
Free Liquids	Intended to verify presence of free liquids	SW846, 9095 Paint Filter Liquids Test	Dependent on visual assessment of consistency. Visual assessment may positively identify presence of free liquids without testing. When visual inspection of waste going direct to the landfill observes moisture or a consistency that has previously resulted in a failure in the paint filter test, this method will be utilized.
Compatibility (MDWTP Only)	Verify potential for adverse reaction. The reactions observed can indicate the need for special precautions when managing these potentially incompatible waste materials or components.	Internal Procedure: Prior to transferring any wastes into a storage tank, the compatibility of the waste, with the material already in the tank, will be determined by mixing in a "mock tank" a waste sample from the tank with samples of waste to be added to the tank. Interaction between the combined materials are observed. If an adverse reaction occurs the waste mixtures are evaluated to determine special precautions are necessary. Examples of precautions may include neutralization of tank prior to addition of the waste.	Each stabilization/oxidation tank
PCB Screen	Verify presence of PCBs to confirm generator knowledge of liquids being from an incidental source. The "incidental liquid" determination is made by the generator at the time of waste characterization or characterized by the generator during the discrepancy resolution process. The screening method may also be utilized if additional information is needed in order to confirm a generators characterization.	Internal Procedure: The screening method utilizes a gas chromatograph with appropriate column and ECD detector. Prior to analysis, a 1ppm aroclor standard is analyzed to confirm the instrument is in working condition (gasses are flowing, column is functional, injection port is clean). This standard may rotate between several common aroclors 1260, 1254, 1242, etc. If there are considerable amounts of solids/particulate in the liquid portion, the sample is centrifuged. The centrifuged sample will be evaluated for phase separation in the liquid layer. If multiple layers are present each individual layer will be analyzed separately and may be an indication that non-incidental PCB liquids are present. The aqueous sample or supernatant from the centrifuged sample (5 mL) is then placed into a vial and surrogates (SW846 8082 method recommended surrogates (decachlorobipheynyl and tetrachloro-m-xylene) are added. The sample with surrogate is then extracted in a 1:1 ratio with hexane. A 1 to 10 dilution with hexane is performed. A 1 mL aliquot of the hexane is removed and injected into the GC/ECD system. If surrogate shows adequate recoveries, the area counts of the sample are compared to those of the 1ppm aroclor standard in order to make a determination of whether PCBs present in the liquid are <500 ppm.	TSCA PCB waste stream that contain unexpected incidental free liquids

A2.B.1(d) Sampling Methods and Frequency Exceptions
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

Whenever possible it is preferred to visually inspect and sample waste received from offsite. Exceptions are only used when inspection and/or sampling may cause injury; collecting a sample would be unreasonably difficult if not impossible due to the nature of the waste (e.g. a steel object that would require a welding torch to cut off a sample) or the packaging in which the waste is shipped; visual inspection and/or sampling may damage the integrity of special packaging designed to shield the waste from contact with leachate or prevent emission of dust or odors or other protections that such packaging may be intended to provide. In all cases, exceptions must be approved by the Administrator. Exceptions approved by the Administrator are listed below, including in each case an explanation for why the exception is necessary.

Exceptions:

- ◆ On-site generated waste
 - Exception: Visual inspection and sampling not required.
 - Reason for exception: The generating process and properties of the waste are well known and as a result waste screening procedures are not needed.
- ◆ Articles, equipment, clothing (such as personal protective equipment (PPE)) contaminated with chemicals; Debris and demolition wastes (40 CFR 268); Chemical-containing devices/articles, such as cathode ray tubes (CRTs), fluorescent lights, batteries; Equipment, machinery, pumps, piping, etc.; Empty containers. Containers are considered "empty" according to the criteria specified in R299.9207; Tanks (whole or cut).
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Filters from inside tanks, molecular sieves, filters/ cartridges;
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Spent activated carbon, ion-exchange resins and other filtration type media.
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample such as filter media sealed inside a filter housing or filter media hardened into a monolith. It is acknowledged that these are expected to be relatively rare exceptions and that such filter media will normally be sampled. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Asbestos-containing waste.
 - Exception: Sampling not required. Visual inspection must still occur but it is not necessary for the sampler to undo packaging, if applicable, inside the shipping container to perform the visual inspection. For example, if the profile states that waste is double bagged, the sampler is only required to visually verify that there are bags inside the shipping container but is not required to open the bags to inspect contents or to collect samples of the asbestos waste.
 - Reason for exception: The reason for the sampling exception is worker safety; it is best practice is to minimize asbestos fiber touch points. The reason for the visual inspection exception is safety concerns with accessing and opening wrapping (e.g. double bagged asbestos inside a bulk shipping container). If the waste can be viewed without opening wrapping, then a visual inspection should occur.
- ◆ Waste capable of causing offsite odor issues. Example: Highly odorous MGP waste.
 - Exception: Visual inspection and sampling are not required. However, this exception does not apply when waste will be direct landfilled by way of the landfill transfer box (which intrinsically means the waste is not expected to cause an offsite odor issue). If the waste has low enough odor that it can pass through the transfer box without causing an offsite odor issue,

then there should not be any higher odor risk to open the shipping container to inspect and sample the waste.

- Reason for exception: Avoid an offsite odor issue.
- ◆ Waste with an acute health hazard such as hydrofluoric acid, arsenic pentoxide and potentially infectious waste such as sewage, fecal matter or medical waste.
 - Exception: Visual inspection and sampling are not required.
 - Reason for exception: Reduce the risk of acute health effects.
- ◆ Waste in sealed, special packaging not readily or safely opened by facility employees and the purpose of the packaging is to prevent contact of the waste with leachate (to minimize leaching of contaminants or prevent undesirable chemical reactions with leachate such as the formation of hydrogen sulfide gas from the reaction of leachate and sulfur), contain strong odors (e.g. MGP waste), prevent emission of highly toxic substances (e.g. dioxins) or some other protective function. There must be a special reason for the packaging. If there is no protective purpose for the packaging, then the presence of such packaging does not exempt the waste from the inspection and sampling requirement.
 - Exception: Visual inspection and sampling are not required only if the packaging is not readily or safely opened or opening the packaging would irreversibly remove the protection the packaging is intended to provide.
 - Reason for exception: To prevent injury to facility employees from attempting to open packaging not readily opened and/or to ensure the integrity of packaging intended to achieve a protective function such as preventing leaching, containing odors and preventing emission of highly toxic substances.
- ◆ Other waste streams approved by the Administrator on a case-by-case basis.

For some waste streams, it may be necessary to conduct the waste screening before arrival at MDWTP/WDI, such as at the site of generation. 40 CFR 264.13(a)(4) and (c) require an owner and operator of an off-site facility (i.e. the TSDF) to establish procedures utilized in order to inspect, and if necessary, analyze each hazardous waste movement received at the facility. If these evaluations must be completed at a location other than MDWTP/WDI, approval must be obtained from the Administrator.

The request for approval must include the following

- a description of why the exception is requested;
- a detailed description of what activities will be performed off-site;
- who will perform the off-site activities; training that will occur to ensure conformance with the WAP;
- documentation that must be transmitted to the applicable receiving facility (MDWTP or WDI) prior to the waste being treated or disposed (i.e. with the waste shipment or before);
- records that will be maintained on-site.

An inspection of the manifest (generator must include the approval number and a certification stating the waste is fully and accurately described on the shipping document) and land disposal restriction certification (if necessary) must however still be executed. The facility may request the Administrator approve an exception to fingerprint sampling and analysis if it can demonstrate that the waste is homogenous. Such demonstration should be included in the request to the Administrator.

A2.B.2 PRE-ACCEPTANCE DISCREPANCY

Inconsistencies in the waste received and the waste profile information or inaccurate or incomplete shipping documents will result in a discrepancy which will be documented on the receiving document when the receipt is created. A representative will be notified in order to resolve the discrepancy if the facility receives a shipment of waste that is inconsistent with the waste profile information or if the waste shipment had incorrect, incomplete, or missing documentation including but not limited to the LDR notification or shipping paper. Discrepancies in paperwork or samples analyzed may result in changes that may require additional handling procedures or modifications to the paperwork or waste characterization. Additional samples for verification may be required to verify information provided by the generator or their representative.

Resolutions may be noted on the receiving document or by an alteration of the waste approval information resulting in correction in the receipt documentation. If a resolution cannot be obtained, the waste may not be treated or disposed of at the facility. If the discrepancy reveals the waste cannot be managed at MDWTP or WDI the waste may be transshipped to an alternate facility, or rejected to the generator or an alternate facility and the hazardous waste manifest will document the rejection in accordance with 40 CFR 264.72. If it is determined that the waste requires a rejection the transporter may retain custody while arrangements are made to reject the material, or the designated facility must provide for secure, temporary custody of the waste. The physical, ignitable and reactive properties of the waste is evaluated in order to determine whether the material can be safely stored in the container storage areas and/or placed in transportation. Re-packaging may be required in order to meet all pre-transportation requirements to place the container back in transportation. If a significant manifest discrepancy (defined by 40 CFR 264.72(b)) is discovered that cannot be resolved with the generator or transporter within 15 days of receipt, facility personnel will submit to the administrator, a letter describing the discrepancy and all attempts to reconcile the discrepancy. The letter will include a copy of the discrepant manifest or shipping document.

A2.C WASTE ACCEPTANCE

The waste acceptance process outlines procedures that will be utilized in order to safely store and treat waste that has gone through the pre-acceptance process and meets the requirements specified by the generator in the pre-approval process.

A2.C.1 CONTAINERIZED WASTE

[R 299.9504(1)(c) and 40 CFR §264.172]

Bulk containerized waste that is accepted by the pre-screening procedures is either directed to the treatment plant for storage and treatment or to the landfill for disposal. Non-bulk containers will be placed in the appropriate MDWTP storage area until it may be treated or disposed of. WDI non-bulk containers are rejected or disposed the same day it is received as the landfill as it is not permitted for storage or treatment, however waste may be staged for sampling and inspection purposes for the duration of a shift in order to execute the requirements of the WAP.

A2.C.1(a) Wastes Container Compatibility

All wastes received by the facility are expected to arrive in a DOT compliant container. If compatibility issues with the container are identified the contents of the container will be transferred to a more appropriate container or the container will be placed in an over pack drum.

Stored containerized waste at MDWTP is segregated according to 49 CFR Subpart C—Segregation and Separation Chart of Hazardous Materials segregation rules (See Table C.1). Based on the hazard assessment of the waste, the containerized waste is organized into segregated storage areas within the NCSA, ECSA, SECSA and the East and West Loading/Unloading Bays. MDWTP takes precautions to prevent the accidental ignition or reaction of ignitable or reactive waste being stored or processed per the requirements of 40 CFR §264.17. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting, and welding hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat. Ignitable and reactive waste are not approved for disposal at WDI.

TABLE C.1 SEGREGATION AND SEPARATION CHART OF HAZARDOUS MATERIALS

CLASS OR DIVISION		2.1	2.2	3	4.1	4.3	5.1	5.2	6.1*	8A	8B	9
Non-Flammable Gases	2.1	C	C	C	C	C	C	C	C	C	C	C
Non-Toxic, Non-Flammable Gases	2.2	C	C	C	C	C	C	C	C	C	C	C
Flammable Liquids	3	C	C	C	C	C	X	C	C	C	C	C
Flammable Solids	4.1	C	C	C	C	C	C	C	C	X	X	C
Dangerous when wet materials	4.3	C	C	C	C	C	C	C	C	X	X	C
Oxidizers	5.1	C	C	X	C	C	C	C	C	X	X	C
Organic Peroxides	5.2	C	C	C	C	C	C	C	C	X	X	C
Poisonous Liquids (NOT PG I, Zone A materials)	6.1*	C	C	C	C	C	C	C	C	C	C	C
Corrosive Liquids-Acids	8A	C	C	C	X	X	X	X	C	C	X	C
Corrosive Liquids-Bases	8B	C	C	C	X	X	X	X	C	X	C	C
Other Regulated Materials and Non-Hazardous Wastes	9	C	C	C	C	C	C	C	C	C	C	C

Notes:

- ✓ This chart is from the USDOT Segregation and Separation Chart of Hazardous Materials, 49 CFR Subpart C (177.848) & additionally segregates the corrosive wastes into acids and bases.
- ✓ Acids have a pH ≤ 2.0 and bases have a pH ≥ 12.5.
- * = Other than Poisonous Liquids PG I, Zone A will not receive wastes with Class 1, or Division 2.3, 4.2, 6.1 PG I, Zone A Hazardous Material classifications.
- C = Compatible
- X = Non-Compatible

A2.C.1(b) Containers without Secondary Containment System

Containers holding waste without free liquids are exempt from secondary containment requirements. The presence of free liquids can be determined by visual inspection and/or using Paint Filter Liquids Test, Method 9095 in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846.

F020, F021, F022, F023, F026, and F027 waste streams with or without free liquids will only be stored in concrete container storage areas which provide sufficient secondary containment.

Hazardous waste spilled in secondary containment would be managed as the incoming waste waste was approved.

A2.C.2 WASTE TANK SYSTEMS

[R 299.9504(1)(c) and 40 CFR §§264.190(a), 264.191(b)(2), 264.192(a)(2)]

A2.C.2(a) Tank Assignment (MDWTP)

During the pre-approval process treatment requirements are assessed based the concentrations of the constituents of concern and applicable waste codes and UHCs that make up the waste. The generator LDR notification (which has been verified for consistency with the pre-approval information during the pre-acceptance process) is used as verification of the contaminants present requiring treatment. Individual waste streams are consolidated into treatment tanks based on similar waste codes and treatment requirements.

A2.C.2(b) Waste Compatibility with and within Tanks

Compatibility testing performed as described in Table B.2 evaluates the potential for reactions to occur inside the treatment tank. Prior to transferring any wastes into a waste treatment tank, the compatibility of the wastes to be combined will be evaluated by mixing in a bench scale "mock tank." Samples from bulk and non-bulk containers are combined along with reagents to be used in the treatment process.

The parameters used to determine compatibility are as follows:

- ◆ Gas Evolution - Materials that upon mixing, appear to liberate excessive amounts of vapors, fumes, or mists, will not be combined.
- ◆ Heat Generation - Materials that, upon mixing, would generate excessive amounts of heat will not be combined.
- ◆ Adverse Reactions - Materials that, upon mixing, result in the formation of a large amount of sludge, or solidify or gel may not be combined if this causes a removal or subsequent handling problem.

The treatment process requires reactions to occur. The type of reaction, rate of the reaction and the severity of the reaction are evaluated during the compatibility testing. Observations made during the evaluation may alter the inclusion or order in which waste and reagents are placed in the tanks.

As outlined in Attachment C2 Tank Systems, the waste treatment tanks are lined with steel. If waste has the potential to react with the tank construction materials, processing activities will account for this and the material will be managed to prevent ignition, reaction or release to the environment. For example, neutralizing reagents may be placed into the tank prior to waste placement.

A2.C.2(c) Tanks without Secondary Containment System

All liquid storage tanks at the facility are in secondary containment.

A2.C.3 WASTE BULKING AND/OR CONSOLIDATION COMPATIBILITY

Different like-wastes that are combined in a container, (excluding empty containers, debris or closed and intact containers of non-hazardous waste) are subjected to the same compatibility (Table B.2) evaluations as applied to wastes that are mixed in the treatment tanks. The individual waste streams comprising the mixture are similar in composition and are amenable to the same type of treatment, or are treated by the same type of treatment on which the treatment standard for that prohibited waste is based. MDWTP does not selectively bulk RCRA hazardous waste in order to achieve a reduction in concentrations rendering the waste non-hazardous, less hazardous or safer to transport, store or dispose of. Bulking/consolidation may result in an incidental reduction of the hazards associated with the waste, but it is not intentional. The waste will continue to carry all applicable waste codes and UHCs and be shipped to an off-site facility to be properly managed.

Pending compatibility confirmation, liquid and solid hazardous and non-hazardous wastes may be bulked or consolidated into larger or fewer containers in any MDWTP permitted storage area. If a roll-off box or other bulk reusable shipping container will be used for bulking or consolidation of listed hazardous waste to an off-site location, a liner will be utilized to prevent contamination when switching from listed wastes to characteristic wastes.

The following waste streams will not be bulked or consolidated: reactives, incompatibles and wastes that alone or when mixed are capable of causing excess odor at the facility property line.

A2.C.4 TRANSSHIPPED WASTE

Waste that is transshipped is temporarily stored at the facility and sent to an authorized TSDF that can manage the material for treatment and/or disposal. Any waste to be transshipped off-site to other permitted TSDF's will be managed in accordance with the WAP. While awaiting transportation to the off-site permitted TSDF, containers will be stored in permitted tanks or container storage areas.

A2.D POST TREATMENT AND LAND DISPOSAL RESTRICTION

This section outlines post-treatment and land disposal restriction requirements.

A2.D.1 TREATMENT FOR PURPOSE OF LAND DISPOSAL

[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, and 268.43 and Part 268, Appendix I and Appendix IX]

As stated in the 1997 preamble, the ultimate objective of the LDR program is to ensure all of the hazardous waste to be land disposed is treated in a way that minimizes the threats that land disposal could pose. MDWTP treats wastes that require treatment to comply with the LDRs using well designed treatment methods such as stabilization, immobilization, neutralization, deactivation, oxidation, and/or reduction using such treatment reagents as inorganic binders (e.g., cement, fly ash, kiln dust), organic binders (e.g., activated carbon), ferrous sulfate, ferric chloride, sodium sulfide, acids, bases, oxidizers and/or reducing agents. Treatment reagents may be commercially available materials, other untreated waste (e.g., an acid waste used to treat a base waste and vice versa), and/or treated waste (e.g., a stabilized waste meeting LDRs used to absorb free liquids in a non-hazardous waste whose only required treatment is solidification to pass the paint filter test). Treatment of the constituents of concern associated with the waste codes characterized by the generator and UHCs (when required) reasonably anticipated to be present at the point of generation as identified by the generator during the pre-approval process occurs in accordance with Attachment C4 Treatment. In the event that the generator notification (required by 268.7(a)(2)) states, “*The hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination*”, MDWTP will test the waste according to the specification of this plan and such testing will be performed by the methods identified in Table A.3. Table D.1 details the recommended treatment that may occur for the characteristic category.

TABLE D.1 CHARACTERISTIC TREATMENT IDENTIFICATION

CHARACTERISTIC	RECOMMENDED TREATMENT
Ignitable waste	Deactivation 40CFR Part 268 Appendix VI <ul style="list-style-type: none"> • Chemical Reduction • Chemical Oxidation • Stabilization
Oxidizer	Deactivation 40CFR Part 268 Appendix VI <ul style="list-style-type: none"> • Chemical Reduction
Corrosive	Deactivation 40CFR Part 268 Appendix VI <ul style="list-style-type: none"> • Neutralization • Chemical Oxidation • Chemical Reduction
Reactive	Deactivation 40CFR Part 268 Appendix VI or an equivalent <ul style="list-style-type: none"> • Chemical Reduction • Chemical Oxidation • Stabilization
Metal bearing waste	Stabilization, Precipitation, Chemical Reduction, Chemical Oxidation
Cyanide bearing waste	Chemical Oxidation
SVOC and VOC bearing waste	Chemical Oxidation
Pesticide/Herbicide Bearing Waste	Chemical Oxidation
Hazardous Debris	Immobilization

Constituents that do not qualify as UHCs in the original waste, but are concentrated above UTS levels during treatment are not required to meet UTS levels in the treatment residual. If after treatment a hazardous waste displays a characteristic for the first time, the characteristic waste code will be added to facility records. Wastes will be retreated, as appropriate, to meet the applicable characteristic treatment standards.

A2.D.2 LAND DISPOSAL RESTRICTIONS

[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, and 268.43 and Part 268, Appendix I and Appendix IX]

In accordance with 40 CFR 268.40, prohibited waste identified in the table “Treatment Standards for Hazardous Wastes” may be land disposed at WDI or another landfill that is permitted to dispose of the material, only if it meets the requirements found in the table. Hazardous constituents in waste or in treatment residual will be disposed of only if the following applicable conditions are met:

- All hazardous constituents in the waste or in the treatment residue must be **at or below** the values found in the table for that waste (“total waste standards”); or
- The hazardous constituents in the extract (Method 1311, the Toxicity Characteristic Leaching Procedure (TCLP) is utilized except for D004 and D008 which may also utilize 1310B) of the waste or in the extract of the treatment residue must be at or below the values found in the table (“waste extract standards”); or
- The waste must be treated using the technology specified in the table (“technology standard”), which are described in detail in § 268.42, Table 1 Technology Codes and Description of Technology-Based Standards.

Applicable alternative treatment standards specified in §40 CFR 268.44-46 and 268.49 may be applied to waste or treatment residual. The presence of a listed code or use of a treatment method or standard requiring Subtitle C disposal will result in disposal at WDI or an alternative Subtitle C landfill. Characteristic wastes that are decharacterized and meet other applicable treatment standards may be disposed of at a non-hazardous permitted Subtitle D landfill, WDI or an alternative Subtitle C landfill.

A2.D.2(a) Characteristic Wastes

Characteristic waste codes acceptable for storage, treatment and disposal are outlined in Table D.2. Wastes that carry more than one characteristic will be identified with a number for each characteristic and treated for each of the constituents of concern. Waste codes will be treated to treatment standards identified in 40 CFR 268.40. In addition to the waste codes, UHCs reasonably anticipated to be present at the point of generation will be treated to universal treatment standards (UTS) found in 40 CFR 268.48. Upon treatment and the appropriate demonstration (See A2.D.3) that the waste has met applicable LDRs or has been appropriately decharacterized waste will be landfilled.

Tanks will be decontaminated if changed from the storage/treatment of listed wastes to characteristic or non-hazardous wastes that are intended to be disposed of in a Subtitle D landfill. Decontamination consists of water washing and/or dry decontaminating the tank. The rinse waters and/or dry decontamination material is directed to a listed batch tank (containing a compatible waste). The decontamination step is noted on the treatment batch record for the receiving the rinse waters and/or dry decontamination material.

A2.D.2(b) Listed Wastes

[R 299.9627, R 299.9213, and R 299.9214 and 40 CFR, Sections 264.13(a)(1), 268.7, 268.30, 268.31, 268.33, 268.34, 268.35, 268.36, 268.39, 268.40, 268.41, 268.42, and 268.43]

Generator process knowledge strongly determines the applicability of the listed waste code. Listed waste codes acceptable for storage, treatment and disposal are outlined in Table D.2. Unless delisting provisions are applicable to the listed waste code, once applicable treatment standards are met listed waste will be disposed of in a Subtitle C landfill.

Where a waste is both listed under 40 CFR 261, subpart D and exhibits a characteristic under 40 CFR 261, subpart C the treatment standard for the waste code listed in 40 CFR part 261, subpart C will be applicable unless the treatment for the listed waste does not include a treatment standard for the constituent that causes the waste the waste to exhibit the characteristic.

Treatment standards for F001-F005 non-wastewater constituent's carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one, two, or three of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in § 260.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

Dioxin waste (F020-F023, F026-F028, K043 and K099) are acceptable for disposal at WDI and may be present in waste treated at MDWTP, as so long as the dioxin and furan constituents associated with the waste codes do not exceed the concentration based standards. Waste accepted for treatment will receive treatment for other constituents subject to LDRs, but MDWTP does not perform treatment or analysis of dioxins.

A2.D.2(c) Laboratory Packs

[R 299.9627 and 40 CFR §268.7, 268.42(c) and Part 268, Appendix IV and Appendix V]

- ☒ The laboratory packs generated at the facility are not land disposed without meeting applicable Subpart D treatment standards

Laboratory Packs accepted for disposal in the WDI landfill must also meet the requirements of 40 CFR 264.316. Lab pack waste generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received processed to applicable 268.40 treatment standards.

A2.D.2(d) Radioactive Mixed Waste

[R 299.9627 and 40 CFR §§268.7, 268.35(c), 268.35(d), 268.36, and 268.42(d)]

- ☒ The facility does not generate radioactive mixed waste.

See Appendix B Radiological Waste Acceptance Criteria for acceptable waste.

A2.D.2(e) Contaminated Debris

[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.45, and 270.13(n)]

Debris means solid material exceeding a 60 mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by § 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

Hazardous debris is debris that contains a hazardous waste listed in subpart D of part 261 of this chapter, or that exhibits a characteristic of hazardous waste identified in subpart C of part 261 of this chapter. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification (i.e., from waste to hazardous debris) is not allowed under the dilution prohibition in § 268.3.

Hazardous debris that exhibits the characteristics of ignitability, corrosivity, or reactivity will be treated using one of the extraction, destruction, or immobilization technologies identified in Table 1 of 40 CFR §268.45.

MDWTP treats hazardous debris in accordance with immobilization technologies specified in 40 CFR 268.45. There are no contaminant restrictions for the immobilization technologies nor are there limitations on the type of debris that may be treated by the immobilization technologies. If immobilization technologies are used, they must be performed as defined in 40 CFR 268.45.

If immobilization is used in a treatment train, it will be the last treatment technology applied. Hazardous debris will be treated for each contaminant subject to treatment as specified by 40 CFR 268.45(b) for toxicity characteristic debris and debris contaminated with listed wastes.

A2.D.2(f) Soil

[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.49 and 270.13(n)]

Soil includes any unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (*i.e.*, from waste to contaminated soil) is not allowed under the dilution prohibition in § 268.3.

Constituents subject to treatment are any constituents listed in § 268.48 Table UTS that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium, zinc, and that are present at concentrations greater than ten times the UTS. PCBs are not constituent subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals.

Prior to land disposal hazardous constituents subject to treatment may be treated to the non-wastewater standard for the hazardous waste contaminating the soil, or in accordance with alternative treatment standards set forth in 40 CFR 268.49 which allow hazardous constituents to be reduced by at least 90-percent through treatment or hazardous constituents must not exceed 10 x UTS at 40 CFR 268.48. Soils that exhibit the characteristic of ignitability, corrosivity, or reactivity must be treated to eliminate these characteristics.

A2.D.2(g) Dilution and Aggregation of Wastes
[R 299.9627 and 40 CFR §268.3]

Listed wastes and characteristic waste, if destined for land disposal, may not be diluted in order to meet LDRs from the point of generation to the point of land disposal. Part 268 does not prohibit dilution in all cases. Rather, dilution is only prohibited if used “*as a substitute for adequate treatment*” to achieve compliance with or circumvent the LDR standards. MDWTP may combine several wastes from various generators to facilitate operational efficiency and utilization of available processing capacity. The aggregation is based on the various waste streams similarities in chemical compatibility, hazardous waste codes, and treatment requirements of the waste streams. Aggregation for centralized waste treatment may result in dilution which occurs in conjunction with adequate treatment. Incidental dilution may also occur when reagents are added to the waste in order to perform treatment. This too is considered dilution inherent to an effective treatment process as so long as the reagents are capable of effectively treating the constituents subject to treatment. For example, batches that require both oxidation and stabilization must have reagents that will oxidize and stabilize the constituents subject to treatment.

The facility does not impermissibly dilute or partially treat a waste to change its treatability category (i.e., from non-wastewater to wastewater), in order to comply with different treatment standards. MDWTP may combine different wastes for like treatment (e.g., a D007 waste may be combined with a D008 waste for stabilization). If the wastes are all amenable to the same type of treatment to be performed, the facility may combine wastes to perform the acceptable treatment. When listed waste is combined with characteristically hazardous waste the treatment standards applicable to the listed waste as well as the standards applicable to the characteristic waste (including the UHCs) are all be treated to the appropriate standard.

A2.D.3 POST-TREATMENT SAMPLING AND ANALYSIS (MDWTP)

In accordance with the LDR regulations, treated wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration limits have been attained. This is accomplished by testing the treatment residue to demonstrate the applicable LDR treatment standards have been met.

A single random sample of treatment residue will be sampled from every treatment tank that requires verification that the waste meets the applicable LDR numeric-concentrations prior to land disposal. Each grab sample will be collected from a random vertical and horizontal location using an excavator to reach the selected sampling point, and collecting the sample from the excavator bucket with a disposable scoop or cup. The sample is then analyzed for constituents of concern that were subject to treatment. Table D.2 outlines the test methods that will be utilized to verify LDR compliance.

MDWTP performs a robust, well designed mixing procedure on all waste batches, as described in detail in C4 Treatment. This robust mixing procedure ensures that waste and treatment reagents are uniformly distributed throughout each batch. Although the individual waste streams in some batches may start out as variable, the ultimate treatment residue is uniform. In the event a third-party laboratory will be utilized to perform testing, where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste if knowledge or other supporting information cannot be used.

After initial sampling is completed treatment reagents continue to interact with the waste further stabilizing and oxidizing organics. The additional time is known as the “cure time”. Additional cure samples may be

collected once the waste has had more time to cure (typically at least 2 hours). Cure samples are immediately placed into testing after collection.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

For purposes of sampling, each treatment tank is hypothetically divided into 27 sections. A number is randomly selected through an electronic number generator such as random.org (or an equivalent program) or by selecting a number through a non-electronic system such as a deck of cards or pieces of paper numbered 1-27. The number which is drawn informs the sampler of the approximate location and depth at which a sample must be collected based on the corresponding table below. An excavator removes a bucket from the correlating location identified by the table and uses a scoop, cup, spoon, or towel to remove a sample from the bucket.

TABLE D.2 TREATMENT RESIDUE RANDOM SAMPLING GRID

South	1-4 Ft			5-9 Ft			10-15 Ft			North
	1	2	3	4	5	6	7	8	9	
	10	11	12	13	14	15	16	17	18	
	19	20	21	22	23	24	25	26	27	

Sampling equipment is constructed of non-reactive materials. Decontamination is not required as the excavator bucket is only capable of biased contaminating the sample.

In most instances treatment residual sample preservation is not necessary because analysis will be performed following the sample collection.

Type of Sample	Label Requirements:
Treatment Tanks	Batch ID #
	Date
	Time Sampled

The sample is then taken to the laboratory for analysis. Table D.2 outlines the test methods that will be utilized to verify LDRs. Samples collected for purposes of metals concentration determinations may be divided into multiple TCLP tests in order to obtain checks of the effectiveness of the treatment as it relates to the mobility of the contaminants at various times of the extraction process. These check samples are not utilized for purposes of demonstrating compliance. They provide an early indication (instead of waiting for the full required extraction time period) of whether the additional cure time or retreatment is needed. At least one original and cure TCLP extraction set up is agitated uninterrupted for 18 ± 2 hours and is used to demonstrate compliance with applicable LDRs. The interruptions in the check sample process in order to evaluate the progress of the extraction, eliminates the ability to use the data for compliance purposes. These interruptions also may inappropriately bias the concentration high or low, and as a result may not be relied upon.

Limits of quantitation are set below treatment standards of the specific compound being analyzed in order to quantify concentrations in order to demonstrate concentrations are below UTS levels. Treatment residue is held in the waste treatment tanks while testing is occurring. Treatment batch residues, resulting from the treatment operations that exceed the applicable LDRs, are reevaluated. Options include re-testing after

additional cure time, retreating on-site until the LDRs are achieved or sending the batch off-site for further treatment to meet the LDRs.

The decision to retest or retreat is determined through experience with the waste and treatment process, the amount of time the waste has cured, and the tank failure concentration. Concentration failures of metals typically result in a retreatment while organics may result in resampling if the failure concentrations were near the applicable LDR concentration and additional cure time continued to destroy the compounds.

A2.E LANDFILLED WASTES

[R 99.9504(1)(c) and 40 CFR §§264.13(c)(3) and 264.314]

This section outlines additional requirements specific to landfilled waste.

A2.E.1 CONTAINERIZED OR BULK WASTES

Prior to landfilling, waste is inspected for the presence of free liquids. For waste to be approved into the landfill, the generator has certified that the waste does not contain free liquids. This certification may be relied upon unless there is visual evidence that contradicts this certification. If there is visual evidence of free liquids, a sample of the waste that appears to contain free liquids may be analyzed by the Paint Filter Liquids Test, Method 9095 in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846 in which case the waste may only be landfilled as-is if the sample passes the test. Alternatively, in lieu of a test, it may be conservatively assumed to fail a Paint Filter Liquids Test in which case the waste may not be landfilled as-is.

A2.E.2 PROCEDURES TO DETERMINE ADDITION OF BIODEGRADABLE SORBENT

The presence of biodegradable sorbents is identified from the during the pre-approval process. Generators that have identified the presence of biodegradable sorbent in their waste are not permitted to be directly disposed of in the landfill until the waste is stabilized with non-biodegradable sorbent. MDWTP/WDI do not add biodegradable sorbents to any onsite generated waste.

A2.E.3 WASTE SHIPPED TO SUBTITLE C FACILITIES

[R 299.9627 and 40 CFR §§268.7(a) and 268.7(b)(6)]

For prohibited waste or waste treatment residues that will be further managed at a Subtitle C (hazardous waste management) facility, the facility will submit notifications and certifications in compliance with the notice and certification requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

A2.E.4 WASTE SHIPPED TO SUBTITLE D FACILITIES

[R 299.9627 and 40 CFR §§268.7(d) and 268.9(d)]

The facility may ship RCRA hazardous waste to a permitted non-hazardous waste landfill if it is decharacterized and meets all applicable LDR treatment standards (including UHCs). Listed hazardous wastes that meet the criteria established in 40 CFR 261.3(g) may also be sent to a non-hazardous waste landfill. Hazardous debris that has been treated using the destruction or extraction method of treatment, described in 40 CFR 268.45 may be disposed in a non-hazardous waste landfill.

The facility will submit a one-time notification and certification for characteristic wastes, or listed wastes that are listed only because they exhibit a characteristic, that have been treated to remove the hazardous characteristic and are no longer considered hazardous. The certification and all treatment records will be placed in the facility's file. The notification and certification will be updated if the process or operation generating the waste changes and/or if the Subtitle D facility receiving the waste changes.

A2.E.5 RECYCLABLE MATERIALS

[R 299.9627 and 40 CFR §268.7(b)(7)]

For wastes that are recyclable materials used in a manner constituting disposal, in accordance with R 299.9206 and 40 CFR §266.20(b), the facility will submit a notice and certification to the Director, or delegated representative, with each shipment of waste describing the waste and applicable treatment standards and identifying the facility receiving the waste. Recyclable materials may be stored and transshipped from MDWTP.

Materials from offsite sources that are beneficially reused by MDWTP for waste treatment (e.g., kiln dust, ferrous sulfate) alter the physical and/or chemical properties of the original materials such that the originally received material no longer exists and therefore does not qualify as land application. Thus such beneficially reused materials qualify as recycling and are not subject to RCRA waste management requirements.

A2.F NOTIFICATION, CERTIFICATION AND RECORDKEEPING REQUIREMENTS

[R 299.9627 and R 299.9609 and 40 CFR §§264.73, 268.7, and 268.9(d)]

This section is intended to document the necessary notification and recordkeeping requirements associated with land disposal restrictions and the operating record as it relates to the WAP.

A2.F.1 RETENTION OF GENERATOR NOTICES AND CERTIFICATIONS

[R 299.9627 and 40 CFR §268.7(a)(7)]

MDWTP/WDI will retain a copy of all notices, certifications, demonstrations, data, and other documentation associated with compliance to LDRs as described in A2.F.6.

The following notices and certifications submitted by the initial generator of the waste will be reviewed and maintained:

- Notices of prohibited wastes not meeting treatment standards or exceeding levels specified in RCRA §3004(d), including the information listed in R 299.9627 and 40 CFR §268.7(a)(1).
- Notices of prohibited wastes meeting applicable treatment standards and prohibition levels, including the information in R 299.9627 and 40 CFR §268.7(a)(2).

A2.F.2 NOTIFICATION AND CERTIFICATION REQUIREMENTS FOR TREATMENT FACILITIES

[R 299.9627, 299.9608 and 40 CFR §268.7(b), 40 CFR 264.71]

The treatment facility will submit a notice and certification to the land disposal facility with each shipment of prohibited waste or treatment residue of a prohibited waste. The notice will include the information specified in R 299.9627 and 40 CFR §§268.7(b)(4) and 268.7(b)(5).

If the waste or treatment residue will be further managed at a different treatment or storage facility, the facility will comply with the notice and certification requirements applicable to generators as specified in R 299.9627 and 40 CFR §268.7(b)(6).

A2.F.3 RECORD KEEPING

[R 299.9608(4), R 299.9609, R 299.9610(3), and R 299.9627 and 40 CFR §§264.72, 264.73, 268.7(a)(5), 268.7(a)(6), 268(a)(7), and 268.7(d)]

MDWTP/WDI maintains a facility operating log in accordance with R 299.9609 and 40 CFR §264.73. Copies of all necessary notifications and certifications, as well as relevant inspection forms and monitoring data, are also maintained on file in hard copy form or electronically at the facility. The operating log is maintained as follows:

Maintained in the operating log in hard copy or electronic format for three years unless specified otherwise:

- Off-site manifest or shipping paper, as well as the original foreign movement document
- Records and results of waste analyses and waste determinations performed for onsite waste characterization and LDR compliance.
- Summary reports and details of all incidents that require implementing the contingency plan.
- For off-site facilities, notices to generators.
- Records and results off inspections required by Attachment A5 Inspection Schedule.

- Waste minimization certification.
- LDR generator notices and TSDF certifications and demonstration (which will also document treatment failures that have occurred), including notices of exclusion from the definition of hazardous waste, solid waste, or Subtitle C regulation required by 40 CFR 268.7.
- Onsite generated waste LDR notice and certification and demonstration.
- Monitoring, testing or analytical data, and corrective action required as a result of a release.
- Foreign source notice
- Major manifest discrepancy notifications

Items kept in hard copy or electronic format until the closure of the facility include:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal.
- For each day that waste is placed into the WDI landfill, a record showing the coordinates within which waste was placed.
- Ground water cleanup, monitoring, testing or analytical data, and corrective action required as a result of a release.
- Closure cost/postclosure cost estimate.
- Certifications of major changes to a tank system.

A2.F.4 REQUIRED NOTICE

[R 299.9605(1) and 40 CFR §264.12(a) and (b)]

When the facility is to receive hazardous waste from an off-site source, the facility will inform the generator in writing that the facility has the appropriate license for and will accept the waste the generator is shipping. The facility will keep a copy of this written notice in the operating record as described in A2.C.6.

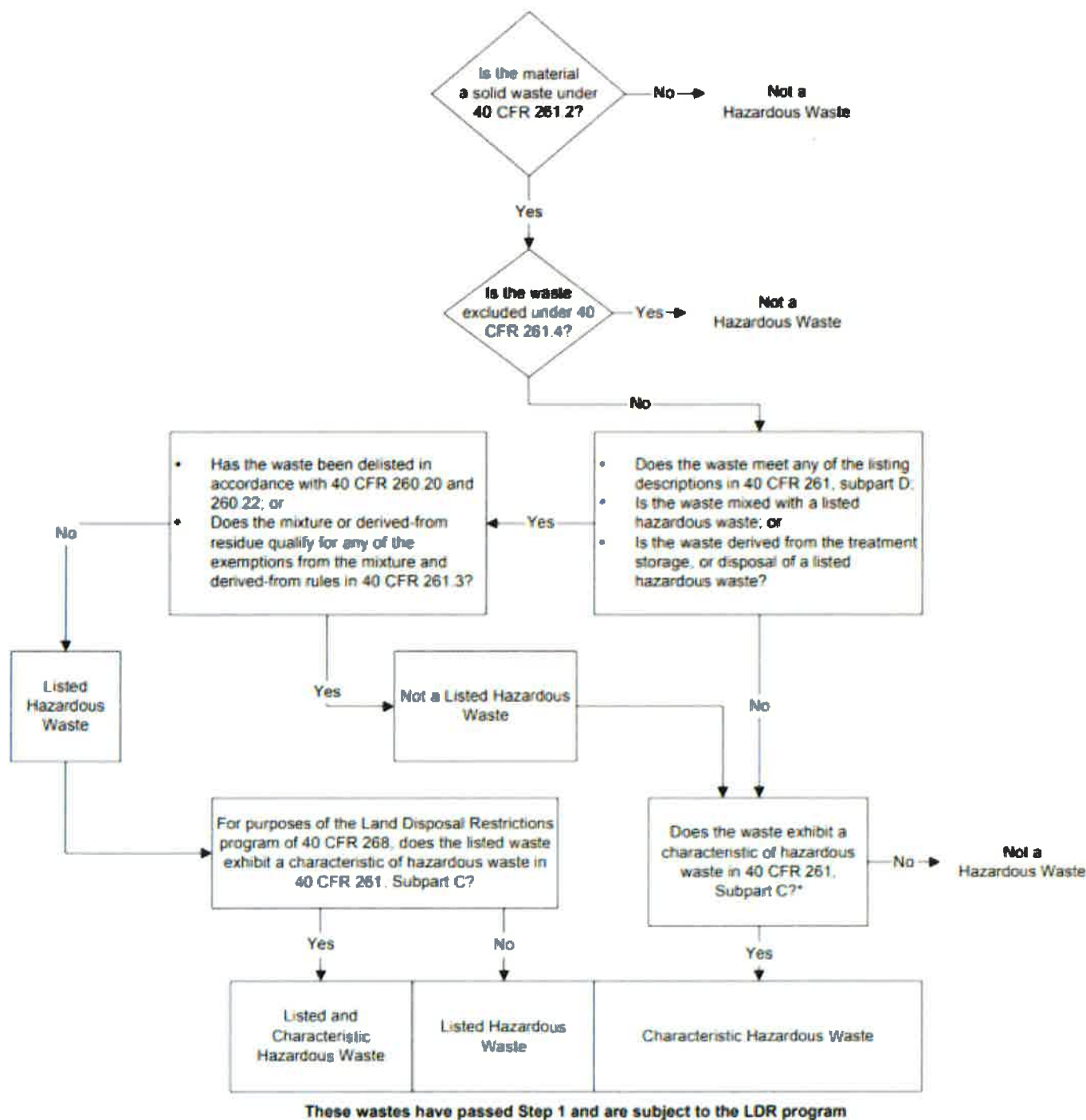
Hazardous waste from a foreign source Subject to 40 CFR 262, Subpart H must submit the following notices:

- A copy of the movement document bearing all required signatures within 3 working days of receipt of the shipment to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system
- Waste imported from a foreign source where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, such owner or operator of the facility, if acting as the importer, must provide notification of the proposed transboundary movement in English to EPA at least 60 days before the first shipment departs the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the same United Nations classification, the same RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.

APPENDIX A HAZARDOUS WASTES IDENTIFICATION

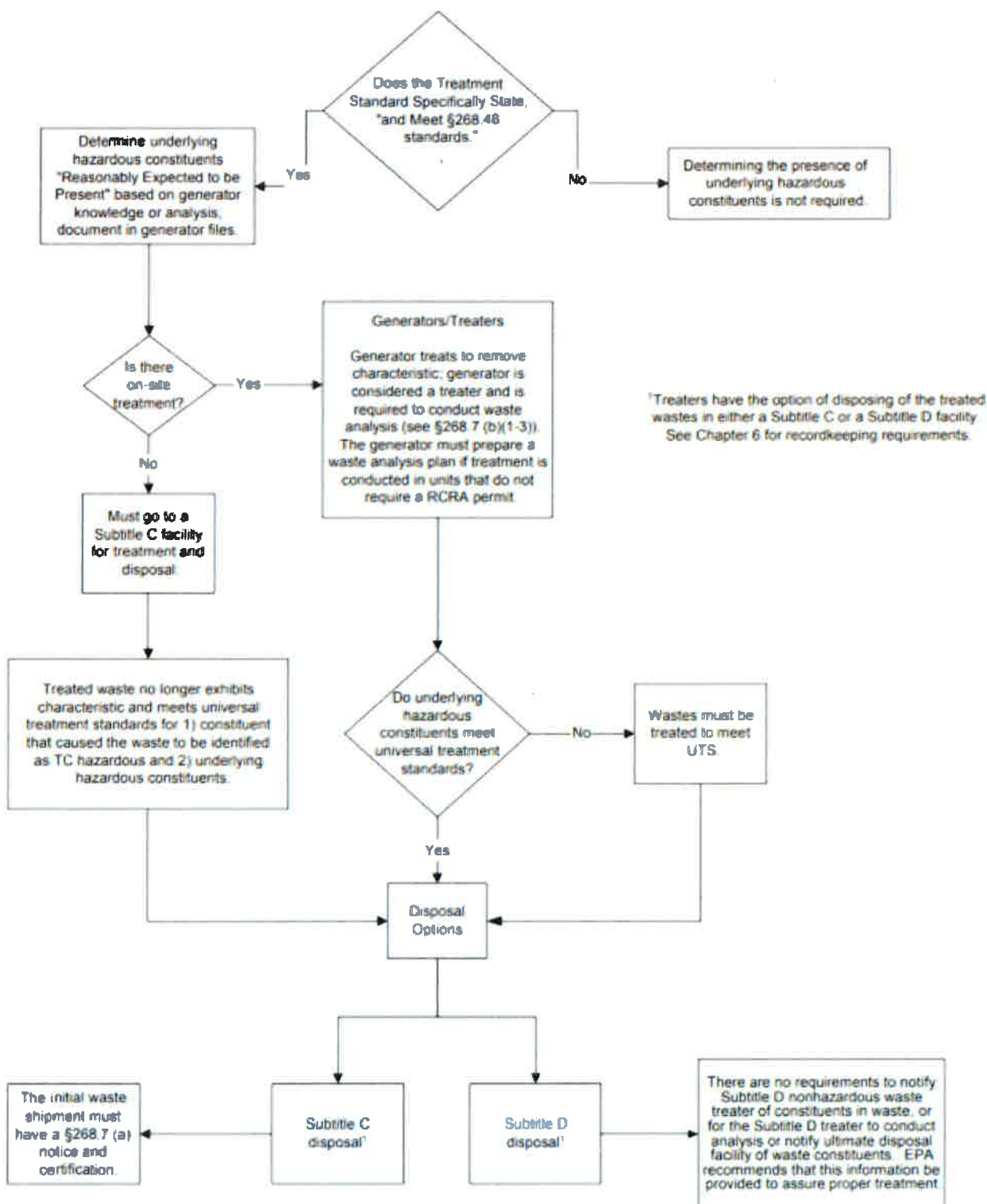
(Tables taken from *Land Disposal Restrictions: Summary of Requirements*, Issued Aug. 2001. EPA-530-R-01-007)

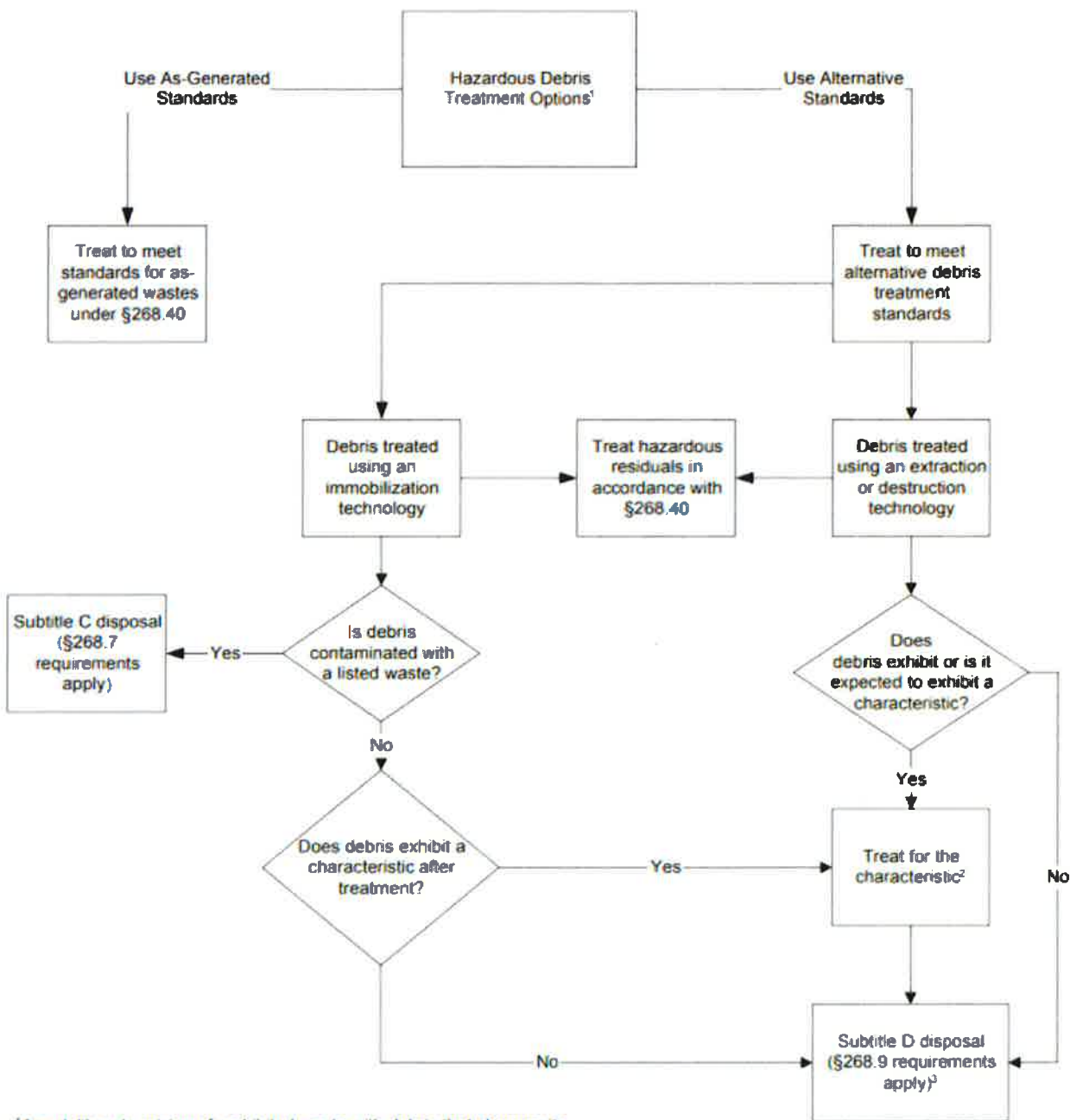
Waste Characterization Determination Flow Chart



*Note exception for mixtures of characteristic wastes and mining/mineral processing wastes in 40 CFR §261.3(a)(2)(i).

Underlying Hazardous Constituent Flow Chart

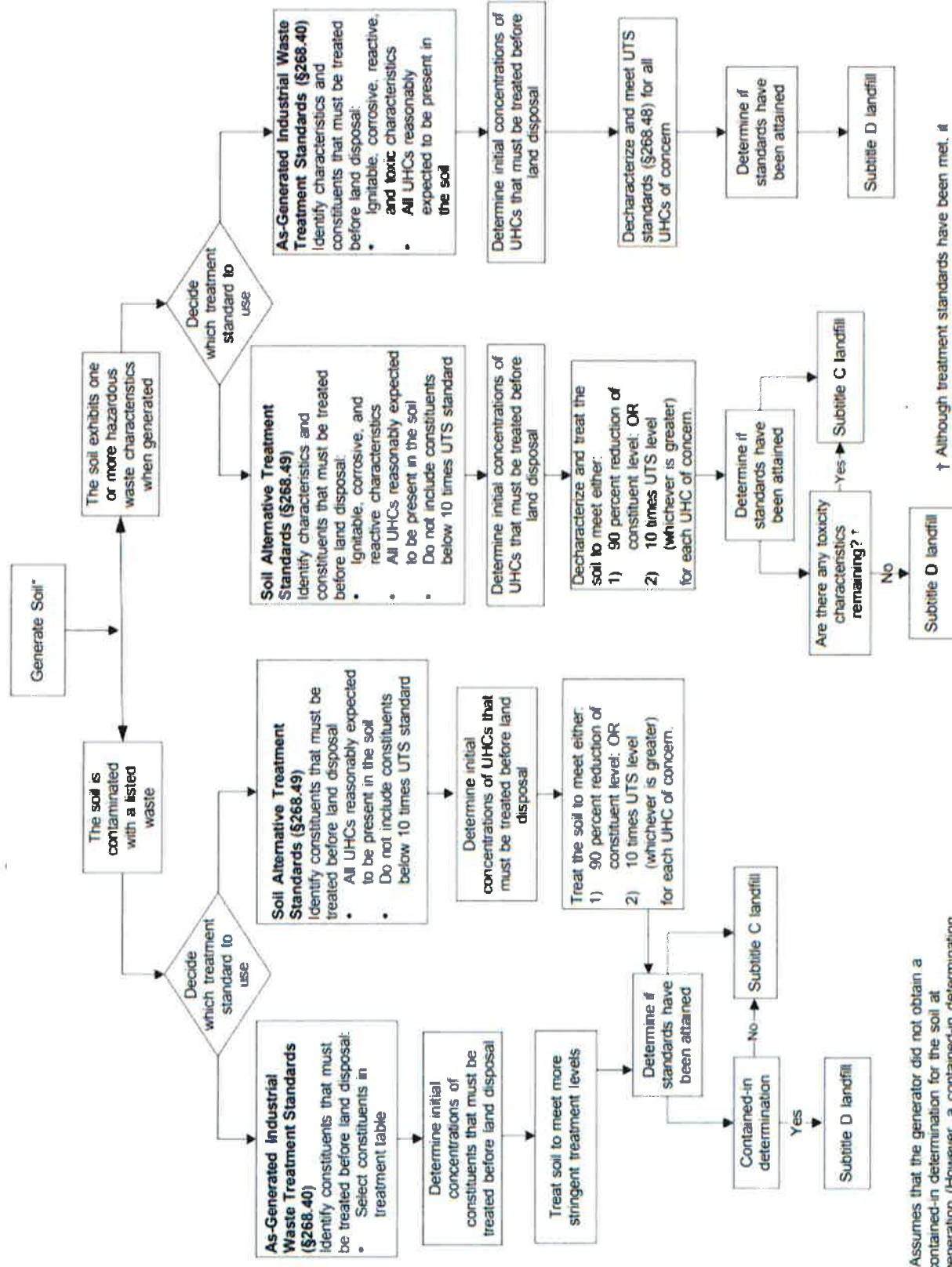




¹Any deliberate mixing of prohibited waste with debris that changes its treatment classification (i.e., from waste to debris) is not allowed under the dilution prohibition in 40 CFR 268.3.

²Treaters have the choice of meeting the treatment standards for as-generated wastes or the alternative treatment standards for debris.

³Treaters have the option of disposing of their treated wastes in either a subtitle C or a Subtitle D facility.



*Assumes that the generator did not obtain a contained-in determination for the soil at generation (However, a contained-in determination can be obtained at any point between generation and disposal)

APPENDIX B
WAYNE DISPOSAL INC. AND MICHIGAN DISPOSAL WASTE TREATMENT PLANT
RADIOLOGICAL WASTE

Wayne Disposal, Inc. (WDI), the Michigan Disposal Waste Treatment Plant (MDWTP), and radioactive material received, processed, and disposed at these sites are regulated under Part 135, Radiation Control, of the Public Health Code, 1978 PA 368, as amended (MCL 333.13501 to 333.13537) and the associated “Ionizing Radiation Rules for Radioactive Material” (IRR).

Radiological waste will be approved and accepted consistent with procedures outlined for all waste in the Waste Analysis Plan.

Michigan Disposal Waste Treatment Plant

MDWTP is authorized to receive material containing radium-226, radium-228, lead-210, and their progeny at any concentration for waste treatment and/or aggregation. MDWTP is also authorized to receive and treat waste meeting at least one of the IRR exemptions below including source material that meets the uranium and thorium criteria in Table 1. MDWTP may not process any exempt devices for treatment.

Wayne Disposal, Inc.

Before placement in the WDI landfill, radiological waste will either meet the limits specified in the following Table 1 or meet an applicable exemption from the IRR.

Table 1 – Michigan Concentration-Specific Landfill Limits

Nuclide	Concentration
Ra-226	50 pCi/g
Pb-210	260 pCi/g
Total combined uranium and thorium*	Less than 500 mg/kg

* Consistent with R 325.5052, “Source material as low percentage of weight” and 10 CFR 40.13, “Unimportant Quantities of Source Material.”

Applicable Exemptions from the “Ionizing Radiation Rules”

In instances where the current regulations in Part 10 of the Code of Federal Regulations differ from the IRR, the material must meet both exemption specifications. Administrative modifications of the exemptions provided below may be made without prior approval from the administrator if the change is made to reflect a change in the IRR.

R 325.5052 Source material as low percentage of weight.

Rule 52. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than 1/20 of 1% (0.05%) of the mixture, compound, solution, or alloy.

R 325.5053 Unprocessed ore containing source material.

Rule 53. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers unrefined and unprocessed ore containing source material. However, the person shall not refine or process such ore except as authorized in a specific license.

R 325.5054 Thorium used in certain articles.

Rule 54. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers any quantity of thorium contained in the following:

- (a) Incandescent gas mantles.
- (b) Vacuum tubes.
- (c) Welding rods.
- (d) Electric lamps for illuminating purposes if each lamp does not contain more than 50 milligrams of thorium.
- (e) Germicidal lamps, sunlamps, and lamps for outdoor or industrial lighting if each lamp does not contain more than 2 grams of thorium.
- (f) Rare earth metals and compounds, mixtures, and products containing not more than 0.25% by weight thorium, uranium, or any combination of these.

R 325.5055 Source material contained in ceramic and other articles.

Rule 55. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers the following:

- (a) Source material contained in the following products:
 - (i) Glazed ceramic tableware, if the glaze contains not more than 20% by weight source material.
 - (ii) Glassware, glass enamel, and glass enamel frit containing not more than 10% by weight source material; but not including commercially manufactured glass brick, pane glass, ceramic tile, or other glass, glass enamel, or ceramic used in construction.
 - (iii) Piezoelectric ceramic containing not more than 2% by weight source material.
- (b) Photographic film, negatives, and prints containing uranium or thorium.
- (c) A finished product or part fabricated of, or containing, tungsten-thorium or magnesium/thorium alloys, if the thorium content of the alloy does not exceed 4% by weight. The exemption contained in this paragraph does not authorize the chemical, physical, or metallurgical treatment or processing of any such product or part.

R 325.5058 Thorium contained in lenses.

Rule 58. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers thorium contained in finished optical lenses, if each lens does not contain more than 30% by weight of thorium. The exemption in this rule does not authorize either of the following:

- (a) The shaping, grinding, or polishing of such lens or manufacturing processes other than the assembly of such lens into optical systems and devices without any alteration of the lens.
- (b) The receipt, possession, use, or transfer of thorium contained in contact lenses, in spectacles or in eyepieces in binoculars or other optical instruments.

R 325.5059 Uranium contained in fire detection units.

Rule 59. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers uranium contained in detector heads for use in fire detection units, if each detector head contains not more than 5 nanocuries of uranium.

R 325.5060 Thorium contained in aircraft engine parts.

Rule 60. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers thorium contained in any finished aircraft engine part containing nickel-thoria alloy, if both of the following conditions are met:

- (a) The thorium is dispersed in the nickel-thoria alloy in the form of finely divided thoria (thorium dioxide).
- (b) The thorium content in the nickel-thoria alloy does not exceed 4% by weight.

R 325.5065 Exempt concentrations.

Rule 65. Except as provided in Rule 66, a person is exempt from this part to the extent that he or she owns, receives, acquires, possesses, uses, or transfers products or materials containing radioactive material in concentrations not in excess of those listed in Rule 146.

R 325.5067 Items containing tritium, promethium-147, or radium.

Rule 67. Except for persons who apply tritium, promethium-147, or radium to, or persons who incorporate tritium, promethium-147, or radium into, the following products, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following products:

- (a) Timepieces or timepiece hands or dials containing not more than the following specified quantities of radioactive material and not exceeding the following specified levels of radiation:
 - (i) 25 millicuries of tritium per timepiece.
 - (ii) 5 millicuries of tritium per hand.
 - (iii) 15 millicuries of tritium per dial; bezels when used shall be considered as part of the dial.
 - (iv) 100 microcuries of promethium-147 per watch or 200 microcuries of promethium-147 per any other timepiece.
 - (v) 20 microcuries of promethium-147 per watch hand or 40 microcuries of promethium-147 per other timepiece hand.
 - (vi) 60 microcuries of promethium-147 per watch dial or 120 microcuries of promethium-147 per other timepiece dial; bezels when used shall be considered as part of the dial.
 - (vii) The levels of radiation from hands and dials containing promethium-147 will not exceed, when measured through 50 milligrams per square centimeter of absorber, the following:
 - (aa) For wrist watches, 0.1 millirad per hour at 10 centimeters from any surface.
 - (bb) For pocket watches, 0.1 millirad per hour at 1 centimeter from any surface.
 - (cc) For any other timepiece, 0.2 millirad per hour at 10 centimeters from any surface.
- (b) Timepieces or timepiece hands or dials containing not more than the following specified quantities of radium and meeting the following expressed conditions:
 - (i) 0.15 microcuries of radium per watch.
 - (ii) 0.03 microcuries of radium per watch hand.
 - (iii) 0.09 microcuries of radium per watch dial.
 - (iv) 0.20 microcuries of radium per clock.
 - (v) 0.04 microcuries of radium per clock hand.
 - (vi) 0.12 microcuries of radium per clock dial.
 - (vii) The timepiece is not a pocket watch.
 - (viii) Timepieces or timepiece hands or dials containing radium that were manufactured before the effective date of these rules.
 - (ix) The timepiece is marked or coded to identify the date of manufacture and that it contains radium.
 - (x) The timepiece emits sufficient luminosity, omitting photoactivation, that its dial can be read in the dark during its entire design lifetime.
- (c) Lock illuminators containing not more than 15 millicuries of tritium or not more than 2 millicuries of promethium-147 installed in automobile locks. The levels of radiation from each lock illuminator containing promethium-147 will not exceed 1 millirad per hour at 1 centimeter from any surface when measured through 50 milligrams per square centimeter of absorber.
- (d) Precision balances containing not more than 1 millicurie of tritium per balance or not more than 0.5 millicurie of tritium per balance part.
- (e) Automobile shift quadrants containing not more than 25 millicuries of tritium.

- (f) Marine compasses containing not more than 750 millicuries of tritium gas and other marine navigational instruments containing not more than 250 millicuries of tritium gas.
- (g) Thermostat dials and pointers containing not more than 25 millicuries of tritium per thermostat.
- (h) Electron tubes, including spark gap tubes, power tubes, gas tubes including glow lamps, receiving tubes, microwave tubes, indicator tubes, pick-up tubes, radiation detection tubes and any other completely sealed tube that is designed to conduct or control electrical currents, if the level of radiation due to radioactive material contained in each electron tube does not exceed 1 millirad per hour at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber and if each tube does not contain more than 1 of the following specified quantities of radioactive materials:
 - (i) 150 millicuries of tritium per microwave receiver protector tube or 10 millicuries of tritium per any other electron tube.
 - (ii) 1 microcurie of cobalt-60.
 - (iii) 5 microcuries of nickel-63.
 - (iv) 30 microcuries of krypton-85.
 - (v) 5 microcuries of cesium-137.
 - (vi) 30 microcuries of promethium-147.
- (i) Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, a source of radioactive material not exceeding the applicable quantity set forth in Rule 147.

R 325.5071 Resins containing scandium-46 for sand consolidation in oil wells.

Rule 71. A person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers synthetic plastic resins containing scandium-46 which are designed for sand consolidation in oil wells if the resins were manufactured or imported in accordance with a specific license issued by the NRC, or were manufactured in accordance with the specifications contained in a specific license issued by the department or an agreement state to the manufacturer of such resins pursuant to licensing requirements equivalent to those in sections 32.16 and 32.17 of 10 CFR Part 32 of the regulations of the NRC. This exemption does not authorize the manufacturer of resins containing scandium-46.

R 325.5072 Gas and aerosol detectors.

Rule 72. Except for persons who manufacture, process, or produce gas and aerosol detectors, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following:

- (a) Byproduct material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards, if the detectors containing byproduct material were manufactured, imported, or transferred in accordance with a specific license issued by the NRC pursuant to section 32.26 of 10 CFR Part 32, which license authorizes the transfer of the detectors to persons who are exempt from regulatory requirements.
- (b) Naturally occurring material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards, if the detectors containing naturally occurring material were manufactured, imported, or transferred in accordance with a specific license issued by the department or an agreement state pursuant to equivalent conditions as in section 32.26 of 10 CFR Part 32, which license authorizes the transfer of the detectors to persons who are exempt from regulatory requirements.

R 325.5073 Self-luminous products containing tritium, krypton-85, promethium-147, or radium-226.

Rule 73.

- (1) Except for a person who manufactures, processes, or produces self-luminous products, a person is exempt from these regulations to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following:
 - (a) Tritium, krypton-85, or promethium-147 in self-luminous products manufactured, processed, imported, or transferred in accordance with a specific license issued by the NRC pursuant to section 32.22 of 10 CFR Part 32, which license authorizes the transfer of the product to persons who are exempt from regulatory requirements.
 - (b) Naturally occurring material in self-luminous products manufactured, processed, imported, or transferred in accordance with a specific license issued by the department or an agreement state pursuant to equivalent conditions as in section 32.22 of 10 CFR Part 32.
- (2) The exemptions in subrule (1) of this rule do not apply to tritium, krypton-85, promethium-147, or naturally occurring material used in products for frivolous purposes or in toys or adornments.

R 325.5074 Exempt quantities.

Rule 74.

- (1) Except as provided in subrules (3) and (4) of this rule, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers a byproduct, naturally occurring, or accelerator material in individual quantities each of which does not exceed the applicable quantity set forth in Rule 147.

Other Determinations

An item with surface contamination including source material, radium-226, radium-228, and progeny may be disposed if the maximum near-contact gamma exposure rate is less than 40 microrentgens per hour above background. The documentation for each item shall include, at a minimum, the following:

- a. Description of the item;
- b. The manufacturer, model, and serial number of the meter and probe used;
- c. The meter calibration date;
- d. The background radiation measurement;
- e. All gamma exposure measurements taken on the item;
- f. The survey date and location; and
- g. The surveyor's name and company.

WDI staff shall comply with the requirements of subrule 2 of R 325.5238, "Disposal of Radioactive Material," for disposal of any material not listed above. The subrule reads, in part,

"A person may apply to the department for approval of proposed procedures to dispose of radioactive material in a manner not otherwise authorized in this part. The application shall include a description of the radioactive material, including the quantities and kinds of radioactive material and the levels of radioactivity involved, and the proposed manner and conditions of disposal."