Introduction

The 10 May 2002 draft of Westates' Performance Demonstration Test Plan is an internal working draft, and is incomplete in several areas. Therefore, EPA is commenting primarily on general aspects of the plan. In these comments, EPA points out missing items that we expect to see in the final test plan, even though we understand that Westates may already intend to include the missing items in the final plan.

EPA is looking forward to reviewing the final test plan. At that time, we will do a detailed review of the plan. We may also have additional comments on general aspects of the plan, due to our seeing critical portions of the test plan, such as Table 2-1 (waste characterization) and Figure 5-1 (sampling points), for the first time.

In large part our comments are the result of comparing the draft plan with the items in EPA's letter dated 21 August 2001. References to Enclosures A and B of the August 2001 letter are noted in *italics*.

Please provide a response to these comments along with the revised test plan.

Comments

I. General

The plan is well organized and easy to follow. For ease of reading, we request that the final test plan be provided in a slightly larger font.

II. Missing Items (originally noted in EPA's August 2001 letter)

Please include the following missing items in the final test plan.

1. The test plan is missing a list test personnel. *Section III.A of Enclosure A*

2. EPA is very interested in seeing a thorough description of the waste feed stream to the furnace. Much of the information we requested about waste characterization is currently missing in the test plan. *Section III.B of Enclosure A*

3. Several items regarding the test protocol, such as methods for data reduction and reporting, and calibration procedures, are missing. *Section III.E of Enclosure A*

4. EPA is very interested in seeing a description of how Westates will ensure that the waste feed and operating parameters will be similar for each test run. *Section III.G of Enclosure A*

5. There is almost no information about shut-down procedures (automatic or manual). *Section III.I of Enclosure A*

6. There is no discussion regarding control of and inspections for fugitive emissions. *Section III.M of Enclosure A*

7. There is no discussion of other inspections to be conducted during the test. *Section III.N of Enclosure A*

III. Other Missing Items

1. Methods for conducting a mass balance for metals and POHCs (Principle Organic Hazardous Constituents) should be outlined in the test plan. It is important to document how much of these constituents exit the system, and where they exit, during the carbon regeneration process. Conducting the mass balance will require testing all feed and exit streams involved in the carbon regeneration process. Additional comments on this testing are included in various sections below.

2. Using data from previous tests at Westates, please provide in the test plan a preliminary mass balance for metals. EPA will use the preliminary mass balance to better understand the system, and for background information relevant to the question of spiking metals.

3. Please define steady state conditions for the purposes of the test, and indicate how steady state conditions will be ensured before the sampling trains are initiated. For example, steady state may be achieved when the operating parameters are not fluctuating and there is waste in all 5 hearths.

4. Please describe what constitutes an upset condition, and how Westates will respond to upset conditions during the test. Especially, describe how the Volatile Organic Sampling Train (VOST, Method SW-846 0050) will be handled during upset conditions. Also, please indicate the maximum amount of time Westates will spend in attempting to bring operating conditions back to steady state, before an entire test run is canceled. (EPA believes it is reasonable to wait no more than 2 hours.)

5. EPA will provide audits for the Volatile Organics Sampling Train (VOST) and dioxins. Analysis of these audits should be addressed in the test plan.

6. Please indicate in the test plan that Westates will provide the following information for review by EPA before the first day of the test:

   calibration sheets from instrument calibrations performed in preparation for the test
   1-minute readings of all operating parameters for the day prior to the first day of the test

7. Please indicate in the test plan that Westates will provide the following information for review by EPA at the beginning of each day of the test:

   1-minute readings of all operating parameters from the previous day's test
   field data sheets from the previous day's test

8. When Westates provides operating data to EPA (e.g., 1-minute readings for operating parameters), it should be provided electronically (e.g., on a disc) in tabular as well as graphic form.

9. Please indicate in the test plan Westates' current operating conditions. Westates will return to these operating conditions once the test has been completed. However, if after the test Westates would like to operate under different conditions than the current operating conditions, Westates may petition EPA for a change in operating conditions.

10. Please include in the test plan a description of how Westates will notify EPA of any unfavorable results of the test (e.g., high emissions rates), which Westates discovers during preliminary calculations performed following the test. For example, if preliminary calculations show that one or more of the MACT emissions limits was not met during the test, Westates must notify EPA verbally within 24 hours of this discovery. If one or more of the MACT emissions limits is not met during the test, or if there are other unexpected outcomes from the shakedown or the final test, EPA may impose alternative operating conditions on Westates during the interim between the test and the final permit decision, as necessary to protect human health and the environment.

11. Any revised operating conditions established during the shakedown, which would require modification of the approved test plan, may be incorporated into the approved test plan via a Memorandum of Record (MOR) signed by both EPA and Westates. MORs may also be used to make on-the-spot changes to the approved test plan during the final test. Please include in the test plan a protocol for documenting such changes using MORs.

12. Please provide information regarding the consultants Westates is using for the developing

the test plan and conducting the test, disclosing any financial relationships which may exist between Westates and the consultants.

IV. Specific Comments on the Test Plan

Section 1.5.1 (Test Conditions)

1. Please confirm whether all priority pollutants and HAPs are being covered in the monitoring trains for the stack gases.

Section 1.6 (Permit Limits)

2. Permit limits should apply any time the system is operating, not only when waste is present in the furnace. For example, permit limits should apply during situations such as preparing the furnace for receiving waste after a shut-down. Please revise this section to address all instances when the permit limits will apply.

Section 2.1.1 (Waste Feeds) *Section III.B of Enclosure A*

3. Please provide information about waste received in the last three years at Westates, and whether Westates proposes to treat these types and quantities of waste in the future. It is important to document all the contaminants that Westates proposes to treat under a permit, and to include all such contaminants in the waste feed during the test. For any contaminant not included in the waste feed during the test, Westates must demonstrate that the POHCs will be more difficult to destroy than the contaminant. During operation under a permit, Westates will only be allowed to feed contaminants that have been demonstrated during the test.

Section 2.2.2 (Blending) *Section III.B of Enclosure A*

4. Please elaborate on stockpiling and blending to prepare the waste feed for the test. Westates must ensure that the wastes being stockpiled for the test contain representative contaminants for all waste proposed to be treated under permit conditions. Also, how will Westates ensure that the wastes are blended properly to ensure that consistent levels of contaminants are in the resulting waste feed for each test run?

Section 3.0 (Engineering Description) *Section III.C of Enclosure A*

5. The narrative in the test plan describing the carbon regeneration system is very useful for a general overview. The test plan must also include a complete description of all portions

of the carbon regeneration system. It should not refer to information in the Part B permit application, but should include relevant details in the test plan itself.

6. Please describe from what part of the furnace the afterburner draws the furnace gases. Also provide confirmation of the afterburner's ability to pull all the gases from the furnace.

7. In the description of the stack, it is misleading to refer to the stack gases as "clean" since the gases contain contaminants.

8. Please indicate whether the system includes a quench, and if so please describe the quench in detail.

Section 3.5.2 (Continuous Emissions Monitoring System) *Section III.O of Enclosure A*

9. There is almost no information about Continuous Emissions Monitoring Systems (CEMS), such as location of sampling points, sampling frequency, calibration, and plans for reporting results. Please include this information in the final test plan.

Section 4.1.1 (Subpart EEE Requirements)

10. In the past, Westates has provided EPA partial information regarding construction dates for the furnace. In order to confirm that the furnace at Westates is an "existing" unit per the relevant definitions in 40 CFR 63, please provide complete documentation of the construction date of the furnace.

Section 4.3 (Number of Tests and Test Runs) *Section III.G of Enclosure A*

11. Absent information about metals in the waste feed, EPA cannot yet determine whether a high-temperature test will be necessary, in addition to the low-temperature test. If Westates proposes only a low-temperature test in the final test plan, please give a justification for not also proposing a high temperature test for volatile metals.

12. Please consider doing a fuel-only run (i.e., a test run in which fuel is the only feed). A fuel-only run will assist in determining whether there are contaminants in the stack emissions that do not correspond with contaminants in the waste feed stream.

Section 4.4.3 Principle Organic Hazardous Constituents (POHCs) *Section III.J of Enclosure A*

13. Please include in the discussion of POHC selection more specifics regarding pesticides and other contaminants that are found in the waste feed and that are difficult to treat. In

the waste feed, will there be any contaminants that have a higher rank on the dellinger list (the thermal stability ranking system) than monochlorobenzene, which is the POHC Westates proposes?

14. Please clarify whether Westates plans to use toluene as a POHC. Toluene is noted in Section 1.4, Item 1, as a POHC, but is not noted in Section 4.4.3. If Westates does not plan to use toluene as a POHC, please explain why the number of POHCs has dropped from two (in the 1995 test plan) to one (in this test plan).

15. Please confirm that the spiking level of the POHCs will be greater than the combined concentration level of all constituents in the waste feed that are in Class 1 of the thermal stability ranking system.

16. Please indicate how the DRE calculation will be performed.

Section 5.0 (Sampling) *Enclosure B*

17. Sampling and analysis should be conducted on the waste feed before and after the spiking location. Sampling and analysis should also be conducted on the product at the exit of the furnace, and on the motive water coming off the dewatering screw. These sample locations are necessary in order to perform the mass balance noted in the general comments above.

18. Please also consider sampling and analysis of the fuel (natural gas), instead of using "typical characteristics" of natural gas as noted in Section 2.1.2. Sampling and analysis may be desirable in order to perform an accurate mass balance.

19. It will be necessary to also sample the waste water discharged to the POTW, in order to provide data for the risk assessment.

20. Some of the sampling frequencies in Section 5.0 do not match those in the Sampling and Analysis Plan. Please ensure that the narrative description in Section 5.0 is consistent with the SAP.

21. Please provide a diagram of the stack showing where the sampling trains will be located. Will Westates have to create additional ports? Also please provide a diagram showing where other samples such as waste feed and process waters will be taken.

Section 5.1.2 (Spiking) *Section III.K of Enclosure A*

22. The discussion providing rationale for spiking metals during the test is useful for a

general background of Westates' approach to metals. However, EPA will not be able to evaluate the rationale until Westates provides information about the metals levels typically in the waste feed. In general, EPA prefers that metals not be spiked if extrapolation can be used instead. If metals are spiked, EPA prefers that non-carcinogenic metals are used.

Section 5.1.4.5 (Sampling Trains)

23. Regarding sampling train 1: please clarify whether Westates will split the XAD into thirds. What analyses will be done on the splits?

24. Regarding sampling train 2: is the spike part of method 0010 (PAHs and PCBs)?

Section 5.5 (Values for Use in Risk Assessments)

25. EPA will consider the proposal to use average emission rates once we review the risk assessment workplan.

Section 6.0 (Test Schedule) *Section III.H of Enclosure A*

26. The test schedule should be more detail. For example, indicate the activities to be conducted during each day of the test.

Section 6.1 (Shakedown) *Section III.P of Enclosure A*

27. A more thorough description of the preliminary test (or "shakedown") must be included in the test plan. The description of the shakedown should be at a level of detail equal to that of the final test.

28. EPA requests that Westates send EPA recorded operating conditions during the shakedown, so that EPA can follow how the shakedown is going. The data should be sent electronically. Please include in the test plan provisions for sending this data.

29. The test plan should indicate that Westates will provide EPA with the results of the shakedown before the beginning of the final test.

Section 7.0 (Operating Permit Objectives) *Section III.D of Enclosure A*

30. Many of the operating conditions EPA requested to be monitored during the test are not included in the lists in Section 7.0 or Section 1.6 of the test plan. Please include the operating conditions noted in Section III.D of Enclosure A of the August 2001 letter, or

explain why Westates does not consider them necessary. Also, for all parameters noted in 40 CFR 63.1209 (j) through (p), please either include the parameters in Section 7.0, or briefly explain why a particular parameter is not relevant to the operations at Westates.

31. It is not clear in the text (Sections 1.6 and 7.0) or the tables (Tables 4.2, 7.1, and 7.2) what Westates is proposing for the test in terms of setpoints, operating ranges, automatic waste feed cutoffs, and stop feeds. For clarity, EPA prefers that this information is provided in separate tables (e.g., one table showing setpoints, another showing operating ranges, and another showing automatic waste feed cutoffs and stop feeds). It will also be necessary to provide tag numbers which will correspond to diagrams showing the monitoring locations for the operating conditions. Finally, please provide information regarding the current operating conditions at Westates, to assist EPA in understanding whether Westates will operate at the extreme ranges of normal operating conditions during the test.

32. During the test, Westates should measure the pressure differential inside the furnace and the afterburner vs. ambient pressure. This is necessary in order to document negative pressure in these units, which will minimize fugitive emission.

Section 8.0 (Test Report) *Section III.Q of Enclosure A*

33. The test plan provides a good outline describing what will be in the test report. However, the description should be more detailed. EPA is providing under separate cover an updated checklist of laboratory documentation that must be included in the test report. If there are portions of the checklist that Westates does not plan to follow in the test report, please indicate why those portions do not apply to Westates.

V. Specific Comments on the Attachments A and B (Sampling and Analysis Plans)

EPA has no specific comments as yet on Attachments A and B. We will review those attachments in detail when we receive the final test plan.

VI. Specific Comments on the Quality Assurance Project Plan *Enclosure C*

EPA will forward our thorough review of the QAPP once we've reviewed the final test plan, although we include here a few comments.

1. Please identify who Westates will use for a lab. Westates should also identify the contractor doing the stack sampling.

2. Generally the hold time for volatile samples is 7 days unless they are preserved. Preservation will increase the detection limit. If Westates plans to use a 14-day hold time, please specify how the sample will be preserved.