UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

12 March 2003

Monte McCue
Westates Carbon - Arizona, Inc.
PO Box 3308
Parker, AZ 85344

RE: Comments on Performance Demonstration Test Plan and Risk Assessment Workplan

Dear Mr. McCue:

Thank you for Westates' submittal of the Performance Demonstration Test Plan dated July 29, 2002 and Risk Assessment Workplan dated June 5, 2002. We have performed a general review of the Plans, and have identified several topics of importance to address before we continue with a detailed review of the Plans. These topics are noted in Enclosure A to this letter. Comments in Enclosure A also reflect our discussions with Westates and with the Colorado River Indian Tribes about the Plans.

Please submit a revised Performance Demonstration Test Plan and Risk Assessment Workplan by April 16, 2003. You must request in writing any extension to this submittal date.

As you know, the Performance Demonstration Test Plan and Risk Assessment Workplan are subject to public review. When EPA believes the Plans are ready for approval, we intend to public notice the Plans and conduct a public comment period, including a public hearing, to obtain comments on the Plans. We will carefully review all comments from the public regarding these Plans, and may request Westates to make additional revisions based on relevant issues raised by the public. We also will continue our consultation with the Colorado River Indian Tribes during our review of the Plans.

Thank you for your attention to this matter. If you or your staff have any questions, please call Karen Scheuermann of my staff at (415) 972-3356.

Sincerely,

Arlene Kabei, Associate Director
Waste Management Division

Enclosures

cc: Daniel Eddy, Jr., Chairman, Colorado River Indian Tribes
Elena Etcitty, Director, CRIT Environmental Protection Office
Eric Shepard, CRIT Attorney General's Office
Dave Harper, Mohave Cultural Preservation Program
Allen Anspach, Superintendent, Colorado River Agency
John Krause, Bureau of Indian Affairs
Bradley Angel, Greenaction
Jane Williams, California Communities Against Toxics
Steve Brittle, Don't Waste Arizona
Tom Goldtooth, Indigenous Environmental Network
Joaquin Lujan, Southwest Network for Economic and Environmental Justice

Enclosure A to letter from EPA to Westates
dated 12 March 2003

EPA Comments on Westates'
Performance Demonstration Test Plan and Risk Assessment Workplan

Background

This enclosure provides comments on Westates' Performance Demonstration Test Plan and Risk Assessment Workplan. Westates submitted these documents to EPA on July 29, 2002 and June 5, 2002, respectively. We performed a general review of these Plans and of the Response to Comments accompanying the Test Plan.

During our review, we identified several topics of importance to address before we continue with a detailed review of the Plans. We discussed these topics with Colorado River Indian Tribes and with Westates in January and February 2003. Comments in this Enclosure reflect these discussions, and document changes we would like to see made to the Plans. We will conduct a detailed review of the Plans once they have been revised to address these comments.

Enclosure B gives a chronology of previous submittals of the Performance Demonstration Test Plan and Risk Assessment Workplan, and EPA comments to the Plans.

In this Enclosure, EPA refers to the Performance Demonstration Test Plan as the Comprehensive Performance Test (CPT) Plan, to parallel terminology used in 40 CFR 63 Subpart EEE.

General Items

In addition to submitting hard copies of the revised Plans, please also submit them in electronic form (PDF is acceptable). This allows for easier review and comment.

Please indicate revisions in the text of the revised Plans using annotations such as strike-out of removed text and red-lining of new text, along with a "clean" copy of the revised Plans. Please also submit a response to comments to accompany the revised Plans, providing detailed rationale and explanations to these comments, and indicating what portions of the CPT Plan and the Risk Assessment Workplan were revised.

Please indicate in the text of the Risk Assessment Workplan if there is any information that has yet to be gathered from the Colorado River Indian Tribes, and the time frame in which the information is needed (e.g., whether it is needed for the final draft of the Risk Assessment Workplan, or not until the Risk Assessment is implemented).

Comprehensive Performance Test Plan

1. Blending and Stockpiling Waste for Test

Original Comments II.4 and IV.4 in EPA's comments dated 23 May 02:

Comment II.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.

Comment IV.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?

Westates' Response dated 29 July 2002:

Response to Comment II.4: The process is very well controlled and stable. WCAI expects little process variability from run to run. Since the space available for stockpiling spent activated carbon is limited, WCAI has developed a plan to feed carbon as received and to supplement it with metals, chlorine, and specific organics during the test. This plan is described in the revised Performance Demonstration Test Plan.

Response to Comment IV.4: As stated earlier in these responses, WCAI has limited capacity for spent carbon stockpiling. Thus, a plan has been developed to augment the carbon actually available for treatment during the test period with chlorine, metal, and specific organic compounds. These materials added to the carbon will establish either "worst case" feed conditions or will be representative of the variety of compounds to be treated and potentially emitted for the system under typical operations. The revised test plan discusses this plan in detail. (See section 4.4.4 and the calculations in Attachment D of the Performance Demonstration Test Plan.)

Comment:
EPA would like to reiterate that the waste feed for all three test runs must be similar in order for EPA to accept the results of the test for purposes of making a permit decision.

In discussions with EPA and CRIT, Westates explained why they believe their plan to spike the waste feed during the test will result in a homogenous waste feed. According to Westates' plan, common contaminants found on the carbon that Westates processes will be spiked onto the carbon prior to its being fed into the furnace. EPA understands that Westates plans to take samples of the waste prior to being spiked and fed into the furnace and will send these samples to a lab for analysis. Westates will then submit the results of the analysis to EPA in the test report.

In your response to these comments and in the appropriate locations in the CPT Plan, please

describe in detail how Westates will ensure the waste feed for all test runs will be homogeneous, and please provide detailed rationale as to why stockpiling will not be needed. Also, please describe where the spike will be incorporated into the waste feed, and indicate the location in the schematic drawing.

2. Material Balance

Original Comments III.1 and III.2 in EPA's comments dated 23 May 02:

Comment III.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.

Comment III.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.

Westates' Response dated 29 July 2002:

Response to Comment III.1: Mass balances will be conducted for the purposes of determining the destruction and removal efficiency (DRE) for the designated POHCs and for determining the system removal efficiency (SRE) of the designated metals. In both cases, the mass balance equation is limited to quantifying the mass feed rate of the constituent under investigation and its stack gas emission rate.

WCAI will perform a determination of the destruction and removal efficiency (DRE) for the designated POHCs using the procedure prescribed by the applicable regulations. This entails determining the feed rate of each POHC and determining the stack gas emission rate of each POHC, and calculating DRE using the formula: *(equation portion of this response not shown)*

In addition, for purposes of extrapolating metal emission rates and feed rates upwards to determine the appropriate metal feed rate limits, WCAI will determine the System Removal Efficiency (SRE) of Semi-volatile Metals (lead and cadmium combined) and of Low Volatility Metals (arsenic, beryllium, and chromium combined). The formula for SRE is analogous to that used for DRE. *(equation portion of this response not shown)*

In order to determine the fate of POHCs and metals, WCAI has agreed with the agency's suggestion to sample and analyze the aqueous discharge from the RF unit for the POHCs and metals, although these are not part of the DRE or SRE calculations. No attempt will be made to close a mass balance other than the needed DRE and SRE determinations, as this is impractical

in light of analytical sensitivity limitations and the inherent variability in the sample matrices and analytical methods. The reactivated carbon will not be sampled and analyzed as part of the test program, as this material is a commercial product, and is not a waste or effluent stream.

Response to Comment III.2: Previous SRE data for metals is included in the test plan as the basis for establishing anticipated permit conditions and for justifying the level of spiking planned for the test. (See "Attachment D – Calculations" to the Performance Demonstration Test Plan.)

Comment:
We agree that for the purposes of DRE and SRE Westates need to determine only the mass feed rate and the stack gas emission rate of the constituents under investigation.

However, in addition to DRE and SRE, we would like Westates to conduct a material balance on the entire system in order to gather information about the fate of constituents throughout the system. The material balance should include at least mercury, volatile metals, semivolatile metals, the POHCs, and total organics. The "outgoing" streams Westates should sample for these constituents include the scrubber blowdown and the reactivated carbon. Even if it is not possible to "close" a material balance due to sensitivity limitations in the analyses, the information will be important in the overall understanding of the system, and may be understood as a generalized "accounting" of the fate of the constituents.

Please include in the CPT Plan a description of how you will conduct a material balance for the contaminants in the system.

3. Totally Sealed System and Fugitive Emissions

Original Comment II.6 in EPA's comments dated 23 May 02:
There is no discussion regarding control of and inspections for fugitive emissions.

Westates' Response dated 29 July 2002:
The test plan stated that the system is totally sealed to prevent fugitive emissions. The revised test plan includes a more detailed description of the inspections that are performed to ensure the integrity of the design features which maintain the seal and prevent fugitive emissions. (See Section 3.6.6 of the Performance Demonstration Test Plan.)

Comment:
The Hazardous Waste Combustors MACT (40 CFR 63.1206(c)(5)(i)) states that combustion system leaks of hazardous air pollutants must be controlled by keeping the combustion zone sealed to prevent combustion system leaks, or by maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor.

In discussions with EPA and CRIT, Westates stated that the system is totally sealed. We understand that the CPT Plan currently contains engineering drawings that Westates believes demonstrate that the system is totally sealed. We will review the engineering drawings when we

conduct our detailed review of the CPT Plan. In addition to the engineering drawings already included in the CPT Plan, please provide fugitive emissions monitoring data (following Method 21 of Subpart BB as required in 40 CFR 264.1063(b) and 40 CFR 265.1063(b), or equivalent National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements) to demonstrate that the system is totally sealed.

The fugitive emissions monitoring data requested above need not be included in the CPT Plan. However, please provide the data along with your response to comments.

4. Waste Water Sampling and Analysis

Original Comment IV.19 in EPA's comments dated 23 May 02:
It will be necessary to also sample the waste water discharged to the POTW, in order to provide data for the risk assessment.

Westates' Response dated 29 July 2002:
While such information is not required, WCAI agrees to sample both the scrubber blowdown and the discharge to the POTW. The test plan has been modified accordingly.

Comment:
In discussions with EPA and CRIT, Westates confirmed that they plan to sample the waste water discharge to the POTW, as currently described in the CPT Plan.

The waste water discharge to the POTW should be analyzed for all constituents necessary for the human health and ecological risk assessments. Please ensure that sampling and analysis described in the CPT Plan reflects constituents of concern for waste water which are identified in the Risk Assessment Workplan.

5. Startup, Shutdown, and Malfunction Plan

Original Comment II.5 in EPA's comments dated 23 May 02:
There is almost no information about shut-down procedures (automatic or manual).

Westates' Response dated July 2002:
Shutdown procedures and spent carbon residence time within the reactivation furnace have been described in the Performance Demonstration Test Plan. (See Section 3.6 of the Performance Demonstration Test Plan.)

Comment:
As we mentioned in our discussions with Westates and CRIT, we would like the CPT Plan to include the components of a Startup, Shutdown and Malfunction Plan as described in the Hazardous Waste Combustors MACT (40 CFR 63 Subpart EEE). There is not enough detail in Section 3.6 of the CPT Plan or in Table 14-1 of the Quality Assurance Project Plan (QAPP) to

meet the requirements for a Startup, Shutdown and Malfunction Plan. For example, we cannot find in Section 3.6 or elsewhere in the CPT Plan any requirements for start-up conditions, including whether or not Westates will feed waste during start-up. Also, in order to minimize violations of operating conditions, the Startup, Shutdown and Malfunction Plan should predict a variety of malfunctions and prescribe detailed actions to be taken upon experiencing the malfunctions (40 CFR 63.1206(c)(2)(v)(A)(2) and 63.1206(c)(2)(v)(B)(4)).

Please provide a Startup, Shutdown and Malfunction Plan for the operation of the system that addresses the requirements of 40 CFR 63.1206(c)(2) and 40 CFR 63.6(e)(3). The Startup, Shutdown and Malfunction Plan may be a stand-alone document or may be incorporated in the CPT Plan. If incorporated in the CPT Plan, please clearly indicate in your response to comments where the various components of the Startup, Shutdown and Malfunction Plan are found in the CPT Plan.

6. Permit Conditions for Start-up, Shut-down, and Non-waste Feed Conditions

Original Comment IV.2 in EPA's comments dated 23 May 02:
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.

Westates' Response dated 29 July 2002:
If permit limits apply at any time, then it is impossible to heat the system up or cool the system down, since this would result in a violation of the minimum temperature limit.

Comment:
To clarify the comment, permit limits for operating conditions should apply any time the system is operating, whether the system is receiving waste or not, except during start-up or shut-down. In addition, emission limits should apply at all times the system is operating, whether or not the system is receiving waste.

Our experience with other combustion facilities has shown that contaminants may be emitted from the stack during maintenance of air pollution control devices and during malfunction conditions. 40 CFR 264.601 requires that miscellaneous units be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary ensure this. Please revise the CPT Plan accordingly.

7. Shakedown or Preliminary Testing

Original Comments IV.27 and IV.28 in EPA's comments dated 23 May 02:

Comment IV.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.

Comment IV.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.

Westates' Response dated 29 July 2002:

Response to Comment IV.27: WCAI may conduct preliminary testing prior to the formal Performance Demonstration Test. However, as discussed below, testing for an existing facility is significantly different from testing for a new facility and consequently formal procedures for shakedown testing are not warranted. Any such preliminary testing will not constitute a formal component of the Performance Demonstration Test.

Response to Comment IV.28: As stated above, WCAI does not need to conduct "Shakedown" operations since this facility has been operating consistently and reliably since 1996. No new equipment is being added for this test, nor are operating conditions significantly different than are typical at the facility. Some of the specific sampling and analytical procedures and the spiking operations are not routine for this facility and consequently WCAI may perform preliminary testing prior to the formal Performance Demonstration Test, but no "shakedown" is needed as is common for new equipment or completely new operating conditions.

Comment:
It is generally necessary to conduct a shakedown test before a Comprehensive Performance Test (CPT) whenever the CPT includes either: a) different feed concentrations (e.g., maximized) from normal operations, b) setting the unit to operate in worst case mode, or c) preliminary testing. The shakedown ensures that the unit will operate at the worst case operating conditions during the CPT without causing an upset condition. EPA requests that Westates provide in the CPT Plan a spreadsheet of all the operating conditions to be addressed during the preliminary testing for information only so we can familiarize ourselves with what operating parameters to expect during the CPT.

Human Health Risk Assessment Workplan

1. Strategy for Selecting the Suite of Compounds

EPA reviewed Westates' proposed strategy for selecting the type and suite of compounds for evaluation in the risk assessment. We compared Westates' proposed strategy with the strategy recommended by the EPA guidance document which is most germane to this type of facility (Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities). There are substantial differences. According to our follow-up discussion of these differences with Westates' consultants, we understand that Westates will revise their proposed strategy to follow the EPA guidance.

Electronic versions of this guidance are available at:
http://www.epa.gov/earth1r6/6pd/rcra_c/protocol/protocol.htm

Ecological Risk Assessment Workplan

1. Pathways and Receptors

EPA does not agree with Westates' proposal to exclude pathways and receptors due to lack of data on toxicological effects. Instead of excluding the pathways and receptors, Westates should consider them as data gaps in the screening level analysis outlined in the current Workplan (i.e., a Tier I analysis), and determine whether these data gaps are significant and need to be addressed in a more site-specific assessment (i.e., a Tier II analysis).

In general, exposure pathways should be more clearly discussed and the Workplan should fully identify and explain why pathways are included or excluded. For example, in Table 10, "aquatic life" should have diet and sediment exposure pathways shown as well as what is currently listed. We suggest that Table 10 be revised to show all pathways regardless of whether they are complete or incomplete. Also, Table 10 should be consistent with Table 11.

According to our discussion of these topics with Westates and CRIT, we understand that Westates will make the revisions requested, and will use standard EPA guidance in a phased Tier approach to the Ecological Risk Assessment.

2. Endangered Species and Species of Special Concern

All listed species must be addressed as individuals in the risk assessment rather than as populations. It is acceptable for surrogate species to be used in an assessment. However, individuals of listed species are important to the survival of the listed species, so any assessment which purports to predict risk to a listed species must be more conservative than just looking at population level effects. According to our discussion with Westates and CRIT, we understand that Westates will address all listed species as individuals in the risk assessment.

3. Hazard Quotient

The Workplan currently proposes a hazard quotient (HQ) of 1. The Workplan should be consistent with other risk assessments overseen by EPA for RCRA facilities, where a HQ of 0.25 was used for both human and ecological receptors. According to our discussion with Westates and CRIT, we understand that Westates will use a HQ of 0.25.

4. Clarification of Maps and Tables

The maps are unclear and difficult to read. Maps showing detail about habitat are needed, and

maps should be of a legible scale with respect to any surface waters near the site.

Table 11 appears to lack technical editing and copy editing and should be revised. We recommend preparing a separate table for each habitat type. Also the comments column in Table 11 contains much information that is unclear or does not seem relevant.

According to our discussion with Westates and CRIT, we understand that Westates will make the revisions and clarifications requested, including the development of overlays showing habitat types, to be used on USGS base maps.

Enclosure B to letter from EPA to Westates
dated 12 March 2003

Performance Demonstration Test Plan and Risk Assessment Workplan
Chronology of Westates submittals and EPA comments

21 August 2001:	EPA sent a letter requesting Westates to submit an Air Emissions Test Plan and Risk Assessment Workplan.
10 May 2002:	Westates submitted a working draft Performance Demonstration Test Plan by electronic mail.
23 May 2002:	EPA sent comments to Westates on the working draft by electronic mail.
5 June 2002:	Westates submitted a working draft Risk Assessment Workplan by regular mail.
July 2002:	Westates submitted an Air Dispersion and Deposition Modeling Protocol Report by regular mail (to be inserted as an Appendix in the Risk Assessment Workplan).
29 July 2002:	Westates submitted a draft Performance Demonstration Test Plan along with a response to comments by regular mail.