CCAR Landfill Project Reporting Protocol Version 2 DRAFT Comments - EcoSecurities

1) Bioreactor has been defined clearly in section 2.3, page 4. Therefore, if a landfill does not meet the EPA's definition of a bioreactor (40 CFR 63.1990 and 40 CFR 258.28a), the project is eligible under this protocol. Correct?
2) In the CCAR newsletter dated 8/25/08, the Board reports that the CCAR offset program will be expanded into Mexico, including 6 Mexican States. We recommend changing language in section 3.1, Location, such that projects outside the U.S. are eligible, with constraint to a geographic limitation that CCAR reserves the right to expand/revise in the future.
3) Project start date
    a. Pre-existing projects have 12 months from the effective date of version 2.0 of the protocol to "list" the project on the California Registry. Will effective date be 11/18/08? So any pre-existing projects have until 11/18/09 to be listed?
    b. The many forms required for listing should be explicitly stated so that definition of "listing" is clear. In footnote 6, "related required documents" is vague and open for interpretation.
    c. There is no explanation of Reserve approval, how long that might take, etc., for planning purposes. Recommend removing 'Reserve approval' from listing requirement as that is out of the control of project participants. Submission of all documents to the Reserve by 11/18/09 is reasonable and within project participant control.
    d. For expansions at existing LFG facilities, is start date now 1/1/01? Or 1/1/08? No mention of 1/1/08 start date from Version 1.0 in Version 2.0, so we assume the criteria has been removed.
4) The Regulatory Test
    a. Costs of regulatory audit are extremely prohibitive, especially for small landfill facilities
    b. Varying state specific requirements would require expert auditors for all states, whereas landfill owner/operator will have native knowledge of local rules/regulations pertaining to the landfill
    c. Liability rests solely with landfill owner that attests to compliance with Regulatory Test, so audit is excessive
    d. Third party verifier should accept attestation letter of compliance with Regulatory Test, or other warranty from landfill owner, as fulfilling the requirement
5) Baseline emissions
    a. Recommend including mechanism to account for improved gas capture efficiency at landfills where a portion of the wells are located within synthetically capped cells (capping under construction but not complete, for instance). Less than 10% of gas is

being oxidized by methanotrophic bacteria in the project scenario because some of the gas is contained within synthetic cap. Include calculation, similar to method for calculating radius of influence for new projects at existing facilities, to adjust the 10% deduction according to the percent of gas collection wells located within synthetically capped cells (i.e. if 80% of wells are in capped cells, deduction would become 10% x 80% = 2%).

   b. Incomplete sentence on page 16, paragraph 3.

6) Recommend using electricity emission factors from GRP v3.0 instead of v2.2.
7) Need to define state (temperature and pressure) at which methane density is defined for (0.0423 lb CH_4/ft^3 CH_4). Based on Ideal Gas Law, it appears to be given for 60°F, 1 atm. Additionally, this means that LFG volumes are to be reported at the same conditions in order for conversion from LFG to CH_4 to be consistent.
8) $FFCH_4$ not included in equation for $CH_4Dest_{upgrade}$
9) Project Monitoring
   a. Page 21 states that continuous LFG temperature and pressure must be directly metered, but according to equation 5-4, weekly T and P are sufficient. Page 24 also says continuously or weekly. This is inconsistent – recommend changing page 21 to be consistent with weekly allowance defined on pages 20 and 24.
   b. Why is duplication of methane monitoring before injection into pipeline or use for CNG/LNG a requirement? If quantity of methane collected is known from monitoring system, and flow to each device/upgrading process is known, additional monitoring adds no value to computation, just excessive data collection.
   c. Agree with change to allow monthly methane concentrations until 1/1/09, since existing projects did not have time to correct operations in 2008. What about other monitoring requirements that might not be met by existing projects, i.e. recording monitoring data continuously (every 15 minutes). Recommend allowing for deviation from exact monitoring definitions (for example, chart recorders that weren't recording data points every fifteen minutes, or equipment that was not calibrated quarterly) for historic monitoring, but require adherence to this protocol after 12/31/08 (following substitution guidelines). A discount factor, similar to those prescribed for methane monitoring frequency, could be used to conservatively estimate historic credits when monitoring system did not conform to these requirements exactly.
   d. Data substitution – apply 5% discount if faulty calibration or missing data. Can backup monitoring system data be used as substitute for missing data? What is the allowable time period that a backup system can be used for, if any restrictions apply? Need additional guidance on how substitution should be applied.
   e. Quarterly calibration of all monitoring equipment is excessive. The drift observed in most monitoring equipment is minimal, so quarterly calibrations are not remotely necessary to ensure accuracy. This increases project implementation costs and will make costs to small projects too high to proceed. Suggest following manufacturer's specifications, or listing specific monitoring equipment with known higher rates of drift tendency that are required to perform quarterly calibrations.

f. If monitoring system is internally recording/sampling data and creating totalized values (i.e. LFG flow volume, methane volume) on some time scale (e.g. daily, monthly) but it is not possible to extract the raw data, this data should be sufficient as it is still continuous monitoring. Additionally, supplying 15-minute data for verification if a totalized flow value is being used in ER calculations is redundant and excessive. One or the other should be required, but not both. If instantaneous flow rates are being used, 15-minute frequency is reasonable.
g. Recommend revising monitoring requirement for operational hours of the landfill gas collection system and flare. Other than a thermocouple, there is no metering equipment that monitors operating hours of a GCCS. Some engines and boilers have run-hours meters, so this requirement is reasonable for projects with these end uses. Additionally, the hours of operation are not included in any emission reduction calculations, so the monitoring is superfluous.
h. A process for requesting deviations by project participants should be developed. Project participants should be included in all discussions of deviations. Verifiers must act as objective third party auditors, not lobbying for or against particular project deviations.