For Sherry workshop
Dec 9.

specific conditions make such recirculation more likely to result in a greater threat to water quality than would prohibiting recirculation.

(b) Redistribution plan --- A discharger proposing to recirculate leachate and/or gas condensate shall include, as part of the JTD, a recirculation management plan, for approval by the RWQCB, describing: (1) the layout and design of the redistribution system; (2) the system's maximum daily loading rate (*e. g. gallons per day per square foot of landfill receiving the discharge*) and (3) for systems for which the released liquids must pass through intermediate cover to reach the waste, the manner in which the discharger will prevent erosion of the intermediate cover.

SUGGESTED DRAFT REGULATION---MODIFIED

ARTICLE 4. SWRCB--MSW LANDFILLS THAT RECIRCULATE LEACHATE AND GAS CONDENSATE

(symbol) 20280 SWRCB ~~Double-Lined~~ Bioreactor Landfills ~~(DL landfills)~~ [new]

(a) The RWQCB shall allow leachate and gas recirculation, and supplemental water and permitted nutrient and CaCO3 buffer amendments at a landfill receiving CL waste ~~only if the landfill that receives the waste is a double-lined landfill ("DL Landfill")~~ providing the landfill is managed to environmental protection criteria ~~meeting the requirements~~ of this section.

(b) ~~DL~~ Bioreactor Landfills are subject to the same siting, design, CQA and seismic standards as for a new CL landfill, plus the following~~additional liner system elements. Except for steep portions lined pursuant to (symbol) 20310 (b) (2) (D) the landfill shall have the following additional design elements between the LCRS and the composite liner [of (symbol) 20301(b)]~~

(1) an~~FML, below the~~ LCRS porous drainage layer having porous packing material and thickness providing a large safety factor, at maximum anticipated leachate drainage rate, such that liquid depth is ~~40 mils in thickness, or at least 60 mils, if HDPE~~ one-third[14] ?? or less of the allowable 30 cm maximum free interstitial liquid depth, measured upward from the liner, in the drainage material. This free interstitial liquid depth is that calculated to result at the planned maximum liquid outflow rate, as specified in the management plan. This liquid depth will be calculated by accepted well-validated correlations that yield depth of liquid flowing through the LCRS porous medium at the LCRS drainage layer grade.

[14] This citerion can be adjusted--it seems a reasonable place to start.

~~(2) a leak detection and drainage layer located above the composite liner and below the FML of (paragraph symbol) (b) (1) This layer shall be designed to readily convey to the leachate sump all leachate which passes the overlying FML.~~

(2) A piezometer or piezometers capable of monitoring net liquid head in the porous drainage layer at key points. Piezometer(s) are to be placed where maximum liquid head is expected: either adjacent to the leachate drainage pipe as well as atop the clay membrane layer or in alternate locations as may be accepted or directed by the RWQCB.

(symbol) SWRCB--Recirculation of Leachate and Gas Condensate and Addition of Supplements [new]

(a) **General** --- For portions of a landfill that meet the LCRS ~~containment system~~ requirements for a ~~DL~~ bioreactor landfill, under (symbol) 20280, the RWQCB shall allow liquid water, and any permitted nutrient/buffer amendment addition and the recirculation of the landfill's own leachate and gas condensate for the purpose of promoting gas generation and enhancing waste degradation and settlement. These can be permitted unless the RWQCB finds that site specific conditions make such supplementation and recirculation more likely to result in a greater threat to water quality than would prohibiting such recirculation, supplementation, or both.

(b) Redistribution plan --- A discharger proposing to recirculate leachate and/or gas condensate and add supplemental liquid shall include, as part of the JTD, a recirculation management plan, for approval by the RWQCB, describing: (1) the layout and design of the redistribution and liquid supplementation system; (2) the system's maximum daily loading rate (*e. g. gallons per day per square foot of landfill receiving the discharge and supplementation*) (3) for systems for which the released liquids must pass through intermediate cover to reach the waste, the manner in which the discharger will prevent erosion of, or lateral diversion by, the intermediate cover, or the manner in which permeable covers which resist erosion--such as chopped yardwaste--will be used. (4) A listing of criteria for limiting or ceasing supplementation, i.e. controlling liquid supplementation such that liquid outflow does not exceed a certain average in terms of gallons per square foot per day

(To be continued after receiving comments)