

CHAPTER 15 PROGRAM NOTE #6:

FEDERAL MSW REQUIREMENTS MISSING FROM, OR MORE STRINGENT THAN, CHAPTER 15

September 16, 1993

On October 1, 1993, the USEPA plans to publish in the *Federal Register* its approval of California's regulatory program for Municipal Solid Waste landfills. The soon-to-be-approved program contains some requirements that go beyond those of the State Water Board's Chapter 15 regulations. The purpose of this Program Note is to list the water quality related changes to California's regulatory program for MSW landfills.

INTRODUCTION

BACKGROUND: The United States Environmental Protection Agency's (USEPA's) regulations for municipal solid waste landfills went on the books October 9, 1991 (40 CFR Parts 257-258, "**federal MSW regulations**"). Except for Class I landfills, any landfill that has ever received municipal solid waste (**MSW**) and, after October 9, 1991, received **any** solid waste—even if only inert waste or green waste—is subject to the federal MSW regulations (**MSW landfill**). Most of the provisions become effective on October 9, 1993.

In addition to standards applicable to MSW landfills, the federal Solid Waste Disposal Act requires states to have a program to implement the federal MSW regulations through permits-or some other system of prior approval. Based on the authority of the Porter Cologne Water Quality Control Act (Water Code Section 13000 et seq.), on June 17, 1993, the State Water Resources Control Board (**State Water Board**) adopted Resolution No. 93-62 **Policy For Regulation Of Discharges Of Municipal Solid Waste (Policy)**. This Policy requires Regional Water Quality Control Boards (**Regional Water Boards**) to implement the federal MSW regulations by amending the waste discharge requirements (**WDRs**) of all MSW landfills.

Based upon an amended joint submittal to USEPA by the State Water Board and by the California Integrated Waste Management Board (**CIWMB**), USEPA plans to grant program approval to California on October 1, 1993.

MSW landfills receiving waste after October 9, 1993, are subject to the requirements of the Policy, to the entire body of federal MSW regulations, and to the State Water Board's regulations governing the discharger of waste to land-23 CCR 2510-2601, "**Chapter 15**". MSW landfills which receive their last waste before October 9, 1993, and which complete closure within six months of last receipt, are subject to the closure provisions of

the federal MSW regulations, but are still subject to Chapter 15. New landfills, and any lateral expansion of the area currently designated for the discharge of waste (**permitted area**), must meet the requirements of the Policy, of Chapter 15, and of the federal MSW regulations, prior to the receipt of waste.

It is important to realize that **the federal MSW regulations are written to be self-implementing. It is solely the discharger's responsibility to comply with all applicable requirements of the federal MSW regulations.** Under federal law, interested parties can bring suit in federal court against a discharger for lack of compliance with any aspect of the federal MSW regulations, even if the discharger is in full compliance with WDRs issued by the Regional Water Board to implement the latest revisions to Chapter 15.

The adoption and implementation of the Policy will result in WDRs that are in full compliance with a USEPA-approved regulatory program. The threat of citizen suites is greatly diminished in any state having a regulatory program approved by the USEPA. After such program approval, any Discharger in full compliance with the state's regulatory program would be able to claim a rebuttable presumption of compliance with the federal MSW regulations as well.

The remainder of this Program Note addresses specific regulatory areas where compliance with the minimum requirements of Chapter 15 does not ensure compliance with the federal MSW regulations. These are the areas in which the Regional Water Board must implement the federal MSW regulations in addition to Chapter 15 in their WDRs for MSW landfills.

Many MSW landfills in California have not as yet complied with those portions of Chapter 15 that have been determined by USEPA to be equivalent to their federal counterpart; many more landfills are not in compliance with those portions of the federal MSW regulations that are more stringent than Chapter 15. The purpose of the Policy is to require Regional Water Boards to revise WDRs to include requirements which bring the MSW landfills into full compliance both with Chapter 15 and with the additional federal requirements stipulated by USEPA as necessary for program approval. Dischargers in full compliance with WDRs that are thus amended should enjoy considerably diminished exposure to citizen suits in federal court.

DISCUSSION OF ISSUES

FLOODPLAINS: Sections 258.11 and 258.16 of the federal MSW regulations require dischargers that are within the reach of a 100-year return interval flood to close by October 9, 1996, unless the Regional Water Board makes certain determinations acting in its capacity as a the "Director of an approved state" (the State and Regional Water Boards have the title, after program approval, for all water quality related issues). Federal floodplain requirements not in Chapter 15 include a prohibition against the landfill either **(a)** restricting the flow of the 100-year flood, or) **(b)** reducing the temporary water storage capacity of the floodplain.

WDRs revised pursuant to the Policy are likely to require MSW landfill owners or operators subject to the federal MSW regulations to either demonstrate that their landfill is above the 100-year flood or that the landfill meets the federal requirements for a landfill reachable by such a flood. Landfills for which a satisfactory demonstration is not received must close by October 9, 1996.

WETLANDS: Section 258.12 of the federal MSW regulations precludes siting a new landfill or lateral expansion in a "wetland" [def. in 40 CFR 232.2(r)], **unless:** (1) there is no practical alternative, (2) steps have been taken to achieve no net loss of wetlands, pursuant to 404 of the federal Clean Water Act, **and** (3) the landfill will not do any of the following:

Degrade the wetland;

Jeopardize threatened or endangered species or produce adverse modification of a critical habitat protected under the Endangered Species Act of 1973;

or

Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

The Policy implements this federal regulation by requiring the discharger to obtain Regional Water Board approval prior to the discharger initiating construction in a wetland for either a new landfill or a landfill at which the discharger proposes to discharge beyond the area of land covered by waste on October 9, 1993 (**Existing Footprint**). This provision does not affect existing landfills which abstain from discharging beyond the Existing Footprint.

UNSTABLE AREAS: USEPA has recognized that Chapter 15 already contains requirements comparable to the "Unstable Area" requirements of 40 CFR 258.15; therefore, in most cases this section is satisfied by implementation of Chapter 15. However, a related section (40 CFR 258.16) states that any landfill failing to meet the Unstable Area requirements must close by October 9, 1996. Therefore, any landfill that has developed an unremediated structural foundation failure (e.g., from a slump in an engineered fill, where the failure surface intersects the waste in the landfill) or which is being affected by slope stability problems in the underlying-or-adjacent natural geologic materials would be subject to this mandatory closure date, unless the discharger can successfully implement corrective measures that fixes the damage and precludes its renewed development. Absent successful remedial efforts, such a landfill would have to close in accordance with 40 CFR 258.16 and 258.60, and with Article 8 of Chapter 15. The federal MSW regulations are silent as to what action would be appropriate for Regional Water Boards if an existing landfill were to develop stability problems subsequent to the mandatory closure date of October 9, 1996.

RUN-ON/RUN-OFF CONTROL SYSTEMS: USEPA has determined that the Chapter 15 run-on and run-off control requirements are, for the most part, equivalent to

those of the 40 CFR §258.26. The only trouble is that Footnote 12 to Table 4.1 of Chapter 15 states that the Regional Water Board can waive run-on/off controls under certain circumstances. Such a waiver is not allowed under the federal approach. Therefore, as part of implementing the Policy, the Regional Water Board must rescind any such waiver granted to a landfill that is subject to the federal MSW regulations. Furthermore, no new waivers will be allowed.

RESTRICTED DISCHARGE OF LIQUIDS: Under §258.28, the federal regulations preclude the discharge of gas condensate, leachate, bulk liquid waste, or non-containerized liquid waste to a landfill **unless**: (1) the waste is household waste other than septic waste, or (2) the waste is leachate or gas condensate **derived from that landfill** **and** the landfill is designed with a composite liner and leachate collection system meeting the explicit prescriptive requirements of §258.40(a)(2). Chapter 15 already precludes the discharge of liquid waste to landfills, except under certain circumstances [23 CCR §2520(d)]. Since §258.28 does not allow the Director of an approved State the latitude to grant exceptions to the ban on discharge of liquids, under the Policy, Regional Water Boards would not be able to rely on the exemptions in §2520(d) at MSW landfills. The Policy requires all liner systems installed outside the Existing Footprint after the Federal Deadline to function at least as well as the prescriptive federal liner design; liner systems installed prior to the Federal Deadline which first receive waste after that date are not subjected to as stringent a requirement. Therefore:

The discharge of leachate and gas condensate is restricted to those portions of the landfill that have liners and LCRS systems meeting the requirements for post-Federal Deadline construction in the Policy;

No landfill, regardless of construction, can receive leachate or gas condensate from another landfill; and

For any landfill that is subject to the federal MSW regulations, and that has been granted permission to accept liquid under any conditions other than the above, the Regional Water Board must rescind that permission.

LANDFILL FOOTPRINT ON OCTOBER 9, 1993: The definitions of the federal terms "lateral expansion" and "new MSWLF unit" combine to restrict the federal term "existing MSWLF unit" to include only that portion of land herein referred to as the Existing Footprint (see 40 CFR §258.2). Therefore, any area newly covered with waste after that date--i.e., outside the Existing Footprint--would be a "lateral expansion" subject to the containment system requirements under 40 CFR §258.40. Because the location of the Existing Footprint is likely to be a consideration in any citizen suit, and will have a bearing upon the applicability of the liner requirements in WDRs, the discharger should establish reliable documentation as to the location of the landfill's Existing Footprint. Therefore, Regional Water Boards implementing the Policy are encouraged to require such documentation via topographic map and photographs.

CONTAINMENT SYSTEM REQUIREMENTS: Except for steep portions of the landfill, the Policy requires all areas of the landfill outside the Existing Footprint to have a composite liner. The Policy's prescriptive composite liner consists of a 40-mil synthetic liner overlying a two-foot thick layer of compacted soil having a permeability $<1 \times 10^{-7}$ cm/sec (i.e., <0.1 ft/yr). Any alternative composite liner, as well as any non-composite liner used on steep areas, must be approved by the Regional Water Board and must satisfy federal performance standards. Dischargers wishing to install any such alternative should submit their proposal to the Regional Water Board as soon as possible, in order to avoid undue delay. The Policy reflects the State Water Board's conclusion that reliance upon engineered containment is more likely to ensure compliance with the non-degradation standard than would reliance upon natural geologic materials and other site-specific characteristics. Therefore, any proposed alternative composite liner must meet or exceed the waste containment capability of the prescriptive liner system based upon straightforward comparison of its engineered structures relative to those of the prescriptive liner design.

"Site-specific considerations" can be used to validate the need for additional containment, such as a double composite liner, but should not be used to support less-effective containment, except under the specific conditions named in Section I.c. of the Policy. For example:

One might argue the viability of an alternative composite liner that makes up for its compacted soil layer's higher permeability (e.g., 1×10^{-6} cm/sec) by having a thicker upper component, instead of the minimum 40-mils (60-mils if HDPE) required by the prescriptive composite design; and

Except as provided in Section I.c. of the Policy, it would be inappropriate to argue that a liner is not needed based on the fact that the uppermost aquifer is a long way below the ground surface.

The Leachate Collection and Removal System [**LCRS**] must meet both the federal and Chapter 15 requirements, and must convey all leachate it captures to a sump (or other such appropriate retention device) without the leachate coming in contact with any unlined or clay-only lined portion of the landfill.

WELL/PIEZOMETER PERFORMANCE: At 40 CFR §258.51(c)(2), the federal regulations require that "...monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to the design specifications throughout the life of the monitoring program." Because Chapter 15 has no corresponding requirement, dischargers can expect WDRs amended pursuant to the Policy to require compliance with this federal requirement.

NO FIELD FILTRATION OF GROUND WATER SAMPLES: According to §258.53(b), the Discharger is not allowed to field filter ground water samples prior to laboratory analysis. This requirement has caused some confusion. USEPA Region IX staff have indicated that this is primarily intended to preclude the removal of free metallic cations from the sample by adsorption onto suspended clay particles during the sampling

procedure. Nevertheless, the federal regulatory language does not limit this requirement to samples containing metals. There is no corresponding state requirement. Even if the Discharger feels that unfiltered samples will prejudice the results, for any given constituent, there does not appear to be any option other than dual samples Cone with and one without field filtering. The data from the field-filtered samples may be of help in making a demonstration--under 258.54(c)(3) or Chapter 15's 2550.8(k)(7)--that an indicated release is the result of sampling error. Nevertheless, except for such backup, the use of data from field-filtered samples is a direct violation of federal regulations. The USEPA has indicated an intention of proposing rescission of this requirement; therefore, the State application does not include an explicit provision corresponding to this and WDRs amended pursuant to the Policy are not likely to contain this requirement. The discharger should be aware, however, that this federal requirement applies until the federal MSW regulations are amended to delete the requirement.

MEASURE GROUND WATER ELEVATION PRIOR TO PRE-SAMPLING

PURGE: The federal regulations specifically require that the discharger measure the ground water elevation **prior to** purging the well, and require that ground water elevations taken to establish the ground water flow direction at the landfill must be taken--at all wells and piezometers used for such determination--within a period of time short enough to avoid temporal variations in ground water elevation that could prejudice the flow direction determination [40 CFR 258.53(d)]. These requirements are so basic that they have typically been included in a landfill's sampling and analysis plan; Chapter 15 has no such requirements. WDRs amended pursuant to the Policy will implement the requirements of this federal subsection.

REQUIRED MONITORING PARAMETERS AND COCs: Unlike Article 5 of Chapter 15, the federal MSW regulations prescribe both the Monitoring Parameters and the Constituents of Concern that must be used at MSWLFs [40 CFR 258.54(a) and 258.55, and Appendices I and II to 40 CFR Part 258]. This approach would considerably increase both the cost of monitoring and the incidence of false-positive indications of a release. Therefore, the model WDR developed by SWRCB staff to implement the Policy contains an alternative procedure which complies with the federal requirements, yet decreases both the cost and the false-positive rate.

The USEPA has accepted this approach. It is detailed in Program Note #4, and will not be repeated here. Dischargers can expect WDRs amended pursuant to the Policy to prescribe this approach. Nevertheless, dischargers are not precluded from proposing alternative methods which comply with both the federal MSW regulations and with Chapter 15.

OFFSITE MIGRATION NOTICE: Within 14 days of discovering that a plume has migrated beyond the facility boundary, 40 CFR 258.55(g)(iii) requires the discharger to notify all persons who own or reside on the land that directly overlies any portion of the

offsite portion of the plume (**Affected Persons**). The federal MSW regulations provide no variance to this notification requirement. There is no corresponding provision under Chapter 15. Regional Water Boards are likely to include this requirement in WDRs amended pursuant to the Policy.

ESTABLISHING CORRECTIVE ACTION MEASURES: The federal MSW regulations require Regional Water Boards establishing a corrective action program for a landfill to carry out the following procedures in addition to those required by Chapter 15:

Corrective Measure Analysis

-Analyze the effectiveness of each proposed corrective action measure regarding its respective: performance, reliability, ease of implementation, safety impacts, cross-media impacts, cost, the possibility of exposure to any residual contamination, the time required to carry out the proposed measure, and any potential delays due to permits by other agencies; and

-Analyze the ability of the proposed measure to meet the requirements and objectives described under 40 CFR 258.57(b & c);

Schedule--Each corrective action measure adopted must include a schedule of compliance meeting the requirements of 40 CFR 258.57(d); and

Affected Persons--For any release that has escaped the facility boundary, the Regional Water Board must invite "Affected Persons" to any meeting which will address the adoption or revision of the corrective action program for that landfill. An Affected Person is any individual who owns or resides upon land outside the facility that overlies the release.

ENDING CORRECTIVE ACTION: Under Article 5, the discharger utilizes a non-statistical method during a one-year proof period to show that the landfill's corrective action measures have brought the unit back into compliance with the cleanup concentrations assigned by the Regional Water Board [23 CCR 2550.10(f & g)]. This approach was taken (**a**) to avoid high false-positive rates associated with a long proof period, and (**b**) to avoid the discharger's having to cleanup far below the cleanup concentration in order to prove successful cleanup, a fault common to statistically-validated cleanup approaches.

The federal MSW regulations both require a longer three-year proof period and require the use of statistics [40 CFR 258.58(e)]. The State Water Board's Chapter 15 Unit has developed and supplied to the Regional Water Boards a means of evaluating corrective action which retains the benefits of 23 CCR 2550.10(f & g) yet satisfies the federal requirements. This method is likely to be proposed as an amendment to 23 CCR 2550.10 during the next revision of Chapter 15. In the interim, Regional Water Boards can use this alternative method because the federal method supersedes that currently given in Chapter 15. Details of this alternative method are available from the Regional Water Board, but are not discussed here due to the unlikelihood that any landfill in the State will need to implement it prior to its being included in the revised chapter.

CLOSURE AND POST-CLOSURE CONCERNS

Closure--In 258.60, the federal regulations specify a number of closure activities and due dates which exceed in stringency, or are missing from, the requirements of Chapter 15's Article 8, as follows:

Submittal of the Closure Plan is required immediately for existing units and must be submitted prior to discharge at new units [258.60(d)]. For Class II and Class III landfills, Chapter 15 does not require this submittal until 180 days prior to closing [2590(a)(2) & (c)(5)]; and

The following federal closure requirements are not explicitly set forth in Chapter 15:

- The top layer of the cover must be capable of resisting erosion [258.60(a)(2)];
- Closure activities must begin either within 30 days of filling the unit or within one year of receiving the most recent waste [258.60(f)];
- Once started, closure must be completed within 180 days [258.60(g)];
- The closure plan must include:
 - +An estimate of the largest area ever requiring a final cover, at any time during the active life of the unit [258.60(c)(2)]; and
 - +An estimate of the maximum inventory of wastes ever to be on-site [258.60(c)(3)]; and

-After closure, the Discharger must modify the deed to perpetually notify any potential purchaser that the land has been used as a landfill and is subject to restricted use [258.60(I)].

Post-Closure-- The post-closure requirements under 258.61 are less divergent from those of Chapter 15:

The federal MSW regulations do not allow a waiver for post-closure like that in the last half of 2590(a)(3); this essentially nullifies any such waiver granted to an MSW landfill that has received waste after October 9, 1991;

Chapter 15 requires the Post-Closure Maintenance Plan to be submitted no later than the submittal of the closure notification, which is due not less than 180 days prior to beginning closure activities [2590(a)(2) & (c)(5)]. The federal regulations require immediate submittal of this plan at all existing units or, for new units, submittal prior to waste acceptance [258.61(d)].

MSW landfills that do not as yet have a Closure/Post-Closure Plan should submit one by October 9, 1993; new landfills must do so prior to receipt of waste. MSW landfills that have already submitted a Closure/Post-Closure Plan should submit revisions, by October 9, 1993, that will bring the Plan into full compliance with the federal requirements.

CORRECTIVE ACTION FINANCIAL ASSURANCE: Although Chapter 15 requires the discharger to obtain and maintain assurances of financial responsibility for any known or reasonably foreseeable release [23 CCR 2550.0(b)], there is little detail provided in the California regulations regarding performance standards for such financial assurance. As part of the program approval process, the Regional Water Boards will apply the financial assurance requirements of 40 CFR 258.73 and 258.74 to corrective

action financial assurance. The regulated community can expect additional clarification on this issue in forthcoming revisions to Titles 14 and 23.

SUMMARY

In all areas where Chapter 15 lacks explicit standards comparable to the federal standards--or contains standards that could be interpreted to be less stringent than the corresponding federal requirement--the Policy directs the Regional Water Boards to amend the WDRs to implement the federal requirements at all MSW landfills. Although this revision process may result in the need to change the landfills' construction, operation, and monitoring practices, it is important to keep in mind that the discharger is responsible for meeting the federal requirements regardless of what the WDRs require. By actively moving to implement the Policy, Regional Water Boards are **(a)** helping the State to gain and maintain program approval from USEPA, a status which provides the discharger with considerably more latitude than would be available in an unapproved state, and **(b)** providing each affected discharger with WDRs that can act as a shield against the likelihood of a successful citizen suit.

If you have any question regarding this Program Note, please telephone Ed Wosika [(916) 739-4274 // CALNET 497-4274].