


Landfill Siting and Tipping Fees

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August 19, 1997

Jorge A. Leon
Senior Staff Counsel
State Water Resources Control Board
P.O. Box 100
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Re: Petition A-1042, Order No. 96-228

Dear Jorge:

Please find enclosed copies of correspondence with Walt Pettit concerning landfill siting and tipping fees. I am bringing these to your attention in order to be incorporated into the record for my Petition A-1042, Order No. 96-228 covering the adequacy of the WDRs that the CVRWQCB issued for the University of California, Davis proposed development of a fifth campus landfill. This correspondence has direct application to the appropriateness of the Schueller "position" on the adequacy of minimum Subtitle D liner design in complying with Chapter 15's requirements of protecting groundwaters from impaired use for as long as the wastes represent a threat. As you may recall, my amended Petition included a specific request of the State Board to address the technical validity and the appropriateness of the approach used for the adoption of the Schueller "position."


As you can see, and I am sure there will be few others who do not agree with me, Mr. Pettit's statements in his August 8, 1997 letter stating and/or implying that the State Board policy/Schueller "position" on the implementation of Chapter 15's requirements for groundwater quality protection have significant impact on landfill tipping fees and landfill siting are inappropriate. Further, as I have discussed in previous correspondence, the Schueller "position" is strongly contrary to waste reduction, recycling and reuse by allowing an initial cheaper-than-real-cost garbage disposal through artificially low tipping fees.

If you have questions on the attached correspondence, please contact me.

Sincerely yours,

G. Fred Lee, PhD, DEE

Copy to: J. Caffrey , E. Schnabel, W. Pettit, G. Carlton, L. Vanderhoef
Enclosure

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August 19, 1997

Walt Pettit
Executive Director
CA Water Resources Control Board
PO Box 100
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Dear Walt:

Thank you for your letter of August 8, 1997 in which you discuss several aspects of materials that I sent to Chairman Caffrey and the other Board members concerning landfills and water quality issues. Your letter raises some fundamental issues that need to be further reviewed since it does not accurately and reliably discuss the relationship between the implementation of the Board/staff Landfilling Policy ("position") and tipping fees as well as the influence of implementation of this Policy/"position" on landfill siting.

You state in your second paragraph:

"Your letter addressed 'proper pricing of the landfilling of solid wastes'. Although I am aware of your concern, the price set for tipping fees for public disposal of waste to landfills is not within the authority of the Board. As I am sure you are aware those prices are determined at the local level."

I certainly did not imply that the Central Valley Regional Water Quality Control Board or the State Water Resources Control Board specifically set tipping fees. What I indicated, which was one of the reasons for my July 4, 1997 letter to the Board, was that the State Board Landfilling Policy and especially its implementation at the regional board level controls tipping fees to a considerable extent. There is no question that in today's landfill tipping fee development, the requirements set forth by the regional boards in WDRs play a major role in establishing tipping fees for a landfill.

The March 19, 1997 Schueller "position" memo stating that it was "our" "position" that a minimum Subtitle D landfill liner system complies with Chapter 15 requirements of protecting groundwaters from impaired use by municipal landfill leachate for as long as the wastes in the landfill will be a threat, allows public and private landfill developers, through the approval by the regional boards and with State Board approval through the Schueller "position," to site landfills at geologically unsuitable sites where there is not natural protection of groundwaters from pollution by landfill leachate for as long as the wastes in the landfill will be a threat. This situation, in turn, allows landfill applicants to develop cheaper-than-real-cost landfilling, in which only the initial cost of waste deposition is included in the tipping fee. The ultimate failure

of a minimum Subtitle D landfill liner/cover system and groundwater monitoring systems that are being permitted by regional boards today at geologically unsuitable sites will obviously not protect groundwaters from impaired use for as long as the wastes represent a threat as required by Chapter 15. Therefore, the regional boards and State Board are directly controlling to a considerable extent tipping fees for landfills through their approach for implementation of Chapter 15 requirements in the current Landfilling Policy.

An additional point of concern, as set forth in my July 4, 1997 letter to the Board on these issues, is the situation with respect to the 3 R's (recycling, reuse and waste reduction). There is no question that the cheaper-than-real-cost landfilling that is now being allowed under the State Board's landfilling "position" and the regional boards' development of WDRs for landfills sited at geologically unsuitable sites for a minimum Subtitle D landfill, is seriously damaging to waste recycling efforts in the state. Counties, waste management companies and others are abandoning waste recycling efforts because their costs exceed the cost of dumping the waste into a minimum Subtitle D landfill. Such initial costs, however, ignore the long-term "Superfund"-like costs that will ultimately have to be borne by the residents of the region when the landfill liner cover and groundwater monitoring systems allowed under current Subtitle D landfilling, as practiced by the regional boards result in "Superfund"-like sites throughout the state where tens of millions of dollars will have to be spent in cleaning up the groundwater pollution for those landfills sited at geologically unsuitable sites.

This situation is no different than what happened when the regional boards staff, without public review, adopted the position in 1984 with the implementation of Chapter 15 that a one foot of 10-6 cm/sec compacted clay liner complied with Chapter 15 requirements for protecting groundwaters from impaired use for as long as the wastes in the landfill will be a threat. It was obvious to anyone who would make a simple Darcy's law calculation, then and now, that such an approach is technically invalid. The same situation applies to minimum Subtitle D landfill liner systems. These systems, at best, only postpone when groundwater pollution will occur for those landfills sited where there are usable groundwaters hydraulically connected to the base of the landfill. It is for this reason that the Board must overturn the Schueller "position," or at least have this publicly reviewed as it should have been before it was adopted. If that "position" is supported by the public in a proper review, then it will be necessary to change the overall groundwater protection requirements set forth in Chapter 15 of protecting groundwaters from impaired use for as long as the wastes represent a threat and stop this facade that has been occurring since 1984 of claiming that the landfills that have been developed since then and are being developed today comply with Chapter 15 requirements.

Therefore, while the Board does not directly set tipping fees, Board policy and how it is implemented at the regional board level does establish the basis for tipping fees. If true groundwater quality protection, as set forth in Chapter 15, were being implemented by the State Board, which would require termination of the Schueller "position," and require a site-specific evaluation as to whether a minimum Subtitle D landfill could be reasonably expected to protect groundwaters from impaired use for as long as the wastes in the landfill are a threat, then the tipping fees would be raised considerably and more properly reflect the actual cost of landfilling at geologically unsuitable sites.

With respect to your second point on the Schueller memorandum stating:

"Your letter also alleges a staff position that landfills can be sited 'anywhere in the state'. You seem to be referring to a March 19, 1997 memorandum from Mr. Schueller to Mr. Pinkos at the Central Valley Regional Water Quality Control Board regarding the 1993 requirement for a composite liner for new landfills or landfill expansions. That memorandum simply states that a composite liner meets the Title 27 performance standards for containment systems of Class II and Class III landfills. The March memorandum does not discuss siting."

This is a narrow interpretation of the landfill siting situation. The Schueller "position" does, in fact, have direct bearing on landfill siting. Recently I received a letter from Mr. Pinkos dated July 8, 1997 indicating that it is the staff's position that since the US EPA's Subtitle D regulations "Preamble" states that the Subtitle D minimum composite liner will be protective even at poor sites, this gives justification for the Central Valley Regional Water Quality Board to adopt a minimum Subtitle D landfill liner system at a geologically poor site where there is not natural protection of the groundwaters from pollution by landfill leachate for as long as the wastes in the landfill would be a threat. In my July 21, 1997 response to Mr. Pinkos I have discussed in detail what the US EPA meant by "protective" when they made that statement. It is not the same "protective" that is set forth in Chapter 15 of no impaired use of groundwaters by waste-derived constituents for as long as the wastes in the landfill will be a threat. I provided you with a copy of my comments to CVRWQCB Chairman Schnabel on this subject.

It is obvious that it is not possible to separate landfill siting issues from landfill design issues. The Schueller "position" has significant, dominant implications for landfill siting. In fact, Betsy Jennings at the Placer County Western Regional Sanitary Landfill review by the CVRWQCB stated on the record that it was inappropriate for me to raise questions about the adequacy of the WDRs for the proposed expansion of that landfill with the CVRWQCB. My objections to the adequacy of design relative to the characteristics of the site where groundwater pollution had already occurred from existing waste management units at that landfill should, according to her, be taken to the State Board for review. At the time of the WRS� hearing, I did not know of the Schueller "position" since this was behind-the-scenes rulemaking that was not made public by the State Board. Further, this "position" is strongly contrary to the position taken by the State Board staff and Board on the Azusa Landfill matter where it was concluded that even a single composite liner with an additional FML was not adequate to protect the groundwater resources of the San Gabriel Basin in accord with Chapter 15 requirements.

Subsequently, when I learned of the Schueller "position" I amended my Petition to the State Board on the adequacy of the CVRWQCB's review of the WDRs for the proposed University of California, Davis fifth campus landfill to include the specific review of the Schueller "position" since, like the Western Regional Sanitary Landfill expansion, the UCD fifth campus landfill site is a geologically unsuitable site for a minimum Subtitle D landfill of the type proposed by the UCD L. Vanderhoef administration and adopted by the CVRWQCB. The fifth campus landfill is to be located immediately adjacent to the fourth campus landfill which is already polluting groundwaters with a chloroform plume that extends some undefined distance greater than a mile from the landfill. Therefore, the site does not provide natural protection of groundwaters, and the inevitable failure of a single composite liner will mean that it is only a matter of time before

groundwater pollution occurs at the fifth campus landfill. Even UCD's former solid waste manager admitted this at a public meeting.

According to the Schueller "position," all that needs to be done to find a suitable site for a landfill in California that will satisfy the groundwater protection requirements set forth in Chapter 15 is to put in a minimum Subtitle D liner, because that will, according to Schueller, in the "our" "position" statement, protect groundwaters from impaired use for as long as the wastes represent a threat. It is obvious, however, that Schueller et al. made a serious error in adopting that position. I do not at this time know what was behind this or why this was adopted without public review. I do know that there was ample evidence at the time that it was adopted, post-1993, to clearly show that it was a technically invalid position that was motivated by factors other than science and engineering and the protection of future generations' groundwater from pollution by landfill leachate.

It is important for the Board to clearly recognize the connection between establishing landfill containment design and groundwater monitoring requirements and the siting of landfills; they are intimately coupled. I personally know from my work with State Board staff in the early 1980s in the development of Chapter 15 that it was never intended that the minimum design requirements set forth in Chapter 15 would be applicable to all sites where landfills could be located in the state. The situation that developed, where the regional boards staff and boards adopted a policy of allowing minimum design to be considered equivalent to the mandated groundwater quality protection set forth in Chapter 15 of protecting groundwaters from impaired use for as long as the wastes represent a threat was of great concern to a number of the State Board staff in the late 1980s, early 1990s. At that time, it was recognized that the State Board had no authority to override the adopted policy of the regional boards on the equivalency of a minimum Chapter 15 design providing protection at any location, unless a landfill WDRs were appealed to the State Board.

It was the regional boards' unofficially adopted equivalency policy which led to the construction of a number of landfills and landfill expansions in the state with the minimum of a one foot of 10-6 cm/sec clay liner from 1984 through 1993, which, as expected, have polluted groundwaters. This pollution is sufficiently evident now so that the WRCB SWAT results report of 1995 make it clear that lining the landfill with the minimum design requirements set forth in Chapter 15 did not prevent groundwater pollution. At best, it slowed it down for about two months. Exactly the same thing is going to happen with minimum Subtitle D composite liners for those landfills sited at geologically unsuitable sites. Instead of being a few months, it could be as long as a few decades until off-site groundwater pollution is found. It will be found, and the Schueller "position" will be recognized as a technically invalid, highly short-sighted approach to managing municipal solid wastes that continued allowing the disposal in such a manner as to lead to groundwater pollution and causing significant harm to the efforts being made by many individuals to improve waste reduction, recycling and reuse.

If you or members of the Board have questions about these comments, please contact me. Hopefully this Board, in the near future, will address the significant deficiencies that have been practiced since 1984 in the landfilling of waste where the minimum prescribed design is assumed

to provide protection of groundwaters from impaired use in municipal solid waste landfills sited where there are vulnerable groundwaters hydraulically connected to the base of the landfill.

Sincerely yours,

G. Fred Lee, PhD, DEE

Copy to:

Members of WRCB

Members of CVRWQCB

W. Attwater

G. Carlton

G. Liss, California Resources Recycling Association

J. Leon

L. Vanderhoef