


Deficiencies in CEQA Review of Landfills

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Maureen F. Gorsen, General Counsel
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Dear Attorney Gorsen:

I have reviewed the Proposed Revision to State CEQA Guideline 14 C.C.R. §15064(i) and find that the current CEQA guideline for this section which states:

"(i) If an air omission or water discharge meets the existing standard for a particular pollutant, the Lead Agency may presume that the emission or discharge of the pollutant will not be a significant effect on the environment."

That approach is obviously technically invalid and reflects a lack of understanding of how environmental standards for air and water are developed.

With respect to the proposed revised language under §15064(i)(4):

"In the absence of a standard which governs the same environmental effect, which was adopted for the purpose of environmental protection, and which applies within that jurisdiction where the project is located, the lead agency shall make its determination of significant effect as otherwise required by these Guidelines."

I have been involved in developing and peer reviewing for governmental agencies and others the appropriateness of water quality standards for drinking water, aquatic life, etc. throughout most of my over 37-year professional career. My academic background includes a bachelor's degree in environmental health sciences from San Jose State College, a Master of Science in Public Health, with emphasis on water quality issues from the University of North Carolina and a PhD in environmental engineering and environmental sciences from Harvard University. The latter degree was obtained in 1960. For 30 years, I held university graduate-level teaching and research positions and was frequently involved as a governmental agency invited reviewer of existing or proposed standards for water quality management. While teaching at the University of Wisconsin, Madison during the 1960s, where I established and directed the Water Chemistry Program, I was asked on a number of occasions to assist the State of Wisconsin's Department of Natural Resources in reviewing proposed water quality standards for the state. In the early 1970s, I served as an invited peer reviewer for the National Academies of Science and Engineering Blue Book of Water Quality Criteria. In the late 1970s, I served as an invited participant in the

American Fisheries Society review of the US EPA July, 1976 Red Book of Water Quality Criteria. In the early 1980s, I served as a US EPA invited reviewer for the current approaches used to develop water quality criteria and as an invited reviewer for several of the criterion documents. I have recently been asked by a contractor for the US EPA to serve as a reviewer for the revised ammonia criteria. Throughout the over 37 years I have been active as a professional in the field, I have frequently been asked by governmental agencies, industry and others to provide critical reviews of existing and proposed criterion standards. I am, therefore, thoroughly familiar with how criterion standards are developed.

Significant deficiencies exist in the criteria standards development process, and many of the factors cause criterion standards for water quality to be badly out-of-date, for decades or more, before revisions are finally made by federal or state agencies. Those familiar with this topic area know that water quality standards do not necessarily protect public health and the environment at the time they are adopted, much less over the time they are in effect. The same situation applies to soil standards, air standards, etc. In fact, standards can be, depending on the situation, under-protective and in other situations, over-protective, i.e. wasteful of resources in terms of implementing control programs. There are political, economic, social and technical factors that influence the degree to which a particular standard is protective at the time it is adopted. Frequently, once a standard is adopted, it is difficult to change it. This leads to considerable inertia on the part of the regulatory agencies to change standards, even though it is well known in the technical public health and water quality community that the standard is badly out-of-date.

There are numerous examples of significant lead times between when standards are finally revised and when it has been known that revisions need to be made. One of the most notable is the fecal coliform standard for drinking water. It has been known since the 1940s that the fecal coliform standard is not protective for viral and protozoan cyst-caused human diseases. It was not, however, until the Milwaukee Cryptosporidium outbreak of several years ago that the US EPA finally took action. Over 400,000 people had to become ill and 100 people die before the agency took action. Milwaukee's drinking water during the epidemic met the coliform standard. The deficiencies in the coliform drinking water standard was not new information at the time of the Milwaukee drinking water problem. The Center for Disease Control had been reporting the problems of Cryptosporidium and enterovirus caused disease, resulting in over 1,000 deaths per year, beginning in the mid-1980s. The US EPA is only now, over 10 years later, beginning to address this issue. Meanwhile, over 10,000 people have died because of inadequate standards for drinking water, in which it was assumed that the fecal coliform standard was protective, when it was well known that it was not.

There are many other examples of deficiencies in standards not being protective. Another notable situation is the arsenic standard for drinking water. It has been known for over 15 years that the current arsenic standard for drinking water is not protective. It allows a cancer risk of over one in 10,000. The US EPA is in the process of reviewing this situation, and it is expected that it will be at least five to 10 years before a new standard is in place that would be more protective. One of the primary reasons for this is the cost of achieving a new standard. For a CEQA document covering changes in water supply sources for the City of Los Angeles to conclude that the arsenic concentration in a water, which is just under the current 50 µg/L standard, represents no public health hazard is obviously invalid. This claim was made under conditions, by one of the

leading EIR firms in the state, over the objections of the public, where it was well known in the field that the arsenic standard is not protective and should be lowered by at least two orders of magnitude to obtain a cancer risk that is in line with what is used for other chemicals in water that are potential carcinogens. This technically invalid approach in the development of an EIR was approved by the State Department of Water Resources. Now the City of Los Angeles is in the process of trying to control the arsenic input to their drinking water since the changes in the water supply source have made their arsenic problem more severe.

Several years ago I wrote a paper on the topic of the inappropriateness of assuming that a standard was protective in Superfund site cleanup situations. This paper, Lee, G.F. and Jones-Lee, A., "Does Meeting Cleanup Standards Mean Protection of Public Health and the Environment?," IN: Superfund XV Conference proceedings, Hazardous Materials Control Resources Institute, Rockville, MD, pp. 531-540 (1994), discusses many of these issues. A copy of this paper is available from my web site (<http://www.gfredlee.com/HazChemSites/hmcrstd.pdf>).

It is highly inappropriate for the California Resources Agency to adopt the proposed revised §15064(i)(4) quoted above, which assumes that meeting standards is protective. Further, the Agency should delete the current §15064(i) covering this issue.

An important aspect of this situation that occurs frequently in CEQA documents is the tacit assumption that if there are no standards for a constituent in a complex mixture of wastes, such as landfill leachate, that the leachate, or other components of the wastes, does not represent a significant hazard to public health and the environment. Again, this is an inappropriate assumption. There are over 75,000 chemicals used every day in the US, only about 100 of which are regulated with respect to drinking water protection. To assume, as is typically done by project applicants and by the CEQA document developer, that the lack of a standard means that the waste derived material is safe is obviously incorrect when examined in terms of what is known about the approaches for evaluating new hazardous or deleterious chemicals in the environment and in drinking waters.

It is my position in connection with reviewing the potential impacts of landfills, waste water discharges, etc. that the project proponents should have to assume a surrogate hazardous/deleterious chemical is present in the complex mixture of wastes discharged or managed and then evaluate the potential impacts of that surrogate on public health and the environment. The surrogate for landfills for solid waste would be vinyl chloride, where a factor of 100 times more hazardous than vinyl chloride is assumed for the surrogate. There are chemicals of this type in wastes, such as dioxins.

I strongly recommend that the CEQA Guidelines be revised to require the project developer, as part of a CEQA document, evaluate a plausible worst-case scenario situation for all regulated and unregulated chemical constituents associated with the project. If there is an attempt by the CEQA document developer to assume that a standard is appropriate, then the developer of the CEQA document must discuss what is known today about the adequacy of the standard.

Previously I have commented on the significant deficiencies in CEQA, as it is being practiced today, where entities such as the University of California, Davis can self-certify a CEQA document that is obviously flawed with respect to providing full disclosure on the potential environmental impacts of a proposed project, such as construction of a new landfill on campus. The University of California, Davis L. Vanderhoef administration is persisting with the development of a minimum design landfill that even its own staff acknowledges will eventually pollute groundwaters. The EIR for the project did not discuss these issues and claimed that it was most cost effective for the University to continue to manage its own wastes in campus landfills, rather than combining its wastes with those of others in the county and other municipalities in a larger, more reliable landfill situation.

The current CEQA approach for review of the potential impacts of projects is essentially a waste of time and money. In the last half a dozen years, I have reviewed over a dozen CEQA documents associated with landfills or other projects on behalf of water utilities and others concerned with the potential impact of the project. In each case, the EIR for the project fails to discuss potential problems which are well known in the field. In a number of these situations, where entity concerned about the project takes the matter to the courts, the courts have, each time, concluded the CEQA document is deficient. With respect to environmental impacts of many projects, CEQA, as it is being implemented, should be abandoned. It has not been, nor will it ever become, a reliable approach for assessing impacts.

CEQA Section 15151 states,

"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of proposed projects need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

Further, CEQA Guidelines, Section 15126(d) requires that an EIR,

"...describe a range of reasonable alternatives to the project or to the location of the project, which could feasibly attain the basic objectives of the project..."

and that the discussion,

"...focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance."

I have yet to find an EIR that complies with these requirements. Unless the potentially impacted public has the resources to challenge the EIR in the courts, the self-certified EIR's stand as credible documents. So long as this situation prevails, the CEQA process is fundamentally flawed.

As part of my reviews of EIR's for clients who are concerned about a particular project, such as a landfill, I try to get the project proponent to provide a detailed discussion of a plausible worst-case scenario failure situation where the project proponent discusses:

- Whether project failures could occur at any time in the future that the project will exist - for landfills, for as long as the wastes in the landfill will be a threat - which would result in the release of hazardous or deleterious constituents to the environment. The failure of a landfill containment system would be the inability of the liner system to prevent leachate from passing through it.
- The reliability of the monitoring program to detect the failure before widespread harm is done to public health and/or the environment and the interests of those within the sphere of influence of the project (landfill). The monitoring programs of concern are the groundwater monitoring programs using vertical monitoring wells spaced hundreds of feet apart where each monitoring well has a zone of capture of about one foot. This is the typical groundwater monitoring system used at today's Subtitle D landfills.
- The remediation approaches that will be taken when failure (groundwater pollution) is detected. Further, information should be provided on how long remediation will be required. For a landfill, how would the groundwaters and the aquifer system be cleaned up so that the aquifer could be used again for domestic water supply?
- The magnitude of the funding under plausible worst-case failure conditions that will be needed to implement the remediation approaches and to compensate those who have been adversely impacted by the project failure.
- The source of the funding that could be needed at any time in the future when project failure could occur. How certain is it for public and private projects, such as landfills, that funds will, in fact, be available to remediate the environmental pollution that has occurred when the pollution is detected, and how will the project proponent stop further pollution at the time of detection?
- How the proposed project conforms to the regulatory requirements for protection of public health, the environment and the interests of those within the sphere of influence of the project. For landfills, how well does the proposed landfill conform to the Water Resources Control Board's Chapter 15 requirements of protecting groundwaters from impaired use for as long as the wastes in the landfill will be a threat?

I find that providing this information is in accord with CEQA. Several judges have ruled in favor of my clients in opposition to projects based on the fact that the project proponent did not provide this type of information. I also find that if this information is provided, it demonstrates to the CEQA reviewing agency and regulatory agencies, etc. that today's "dry tomb" landfills of the type that are proposed to be constructed should not be constructed at most sites where they are currently being permitted today.

I appreciate that the politics of today's situation is such that there is little likelihood that CEQA will be changed, so that groups that self-certify their own EIR's, or others who certify EIR's, whose position is that of pro-project development, can develop CEQA documents which are basically pro-project development documents that do not discuss, even in an elementary way, the potential impacts of the project on public health and the environment, in accord with what is known in the professional literature today.

In summary, Resources Agency should terminate the current language in §15064(i) and not adopt the proposed revisions in §15064(i)(4). The language should be changed to require that if a project proponent proposes to claim that meeting an existing standard is protective of public

health and the environment, that the EIR must reliably discuss what is known about the adequacy of the standard and how it is being implemented. Further, the EIR must consider, for complex mixtures of wastes such as in landfills, the potential public health and environmental impact of unregulated chemicals associated with the project.

If there is any way I can help promote the development of more technically valid, reliable CEQA Guidelines that will address the significant problems that exist today, please let me know. If there are questions about these comments or you wish further information on any aspect of them please contact me.

Sincerely yours,

G. Fred Lee, PhD, DEE

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Reference as:

Lee, G. F., "Deficiencies in CEQA Review of Landfills," letter to M. Gorsen, General Counsel, The Resources Agency, Sacramento, CA, August (1997).