

**Comments on Transcript of Wednesday, February 17, 1993
Hearing before the Regional Planning Commission,
County of Los Angeles, CA
In the Matter of Puente Hills Landfill Expansion**

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Beginning on line 6, Mr. Frazier of the Planning Commission staff, stated with respect to the responsibility of the Planning Commission in deciding this case,

"It [Planning Commission staff report] states as follows, according to the general plan: the criteria to be applied by the Commission in considering an application includes the regional and local need for the specific waste disposal facility as well as the potential impacts the use will have on the community. These impacts include, but are not limited to, noise, odor, visual, circulation, traffic, air and water quality, seismic safety, and safety. Regional needs should not outweigh the impact on the community. Potential hazards should be given greater consideration than the regional need."

It is therefore clear that in accordance with the regional plan, the Planning Commission must place high priority on the reliable evaluation of the potential impact of the proposed landfill expansion on those who reside on or use properties near the Puente Hills Landfill, or groundwater potentially affected by it. Failure of the Planning Commission to conduct an in-depth, reliable evaluation of potential environmental impacts of the proposed landfill expansion would be in violation of the County plan requirements.

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Beginning on line 23, Mr. Michael, Special Assistant for Waste Management Programs, Los Angeles County Department of Public Works, speaking on behalf of Mr. Thomas Tidemanson, Los Angeles County Director of Public Works, stated,

"For those of you that may not know, the county and the Sanitation Districts, in a partnership of 35 years, have provided the residents of Los Angeles County with a reliable, cost-effective public system of solid waste disposal."

A review of this situation, however, shows that in describing the solid waste disposal system as "cost-effective," the County and the Los Angeles County Sanitation Districts ("Districts") have focused only on short-term costs and have not addressed the massive, long-term costs of the various landfills that have been developed under the supervision of the County Department of Public Works and the Los Angeles County Sanitation Districts. Appropriate planning for solid waste management must include consideration of the true, long-term costs associated with waste management. This has not been done thus far. Furthermore, approaches for planning for municipal solid wastes that were considered appropriate 35 years ago, are no longer appropriate. The massive amount of information developed over the past 10 years has confirmed what many professionals in the water quality and solid and hazardous waste management fields have known for many years: municipal solid waste (MSW) landfills have a very significant potential to

pollute groundwaters and adversely affect nearby property owners and users. The past solid waste planning approaches of the County and the Sanitation Districts have left a massive legacy to future generations - of lost water resources, adverse impacts on communities, and costs of addressing the groundwater pollution and its sources.

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Beginning on line 14, Mr. Michael stated with regard to the "underlying basic premise" of the action plan that the LA County Board approved,

"First, the regional public system, balanced with the private sector, has served the County well, recognizing that environmental considerations are of far greater importance than in the past, and understanding that current waste facility regulations and state-of-the-art designs provide for environmentally sound facilities."

If that was an underlying premise of the action plan, the action plan is unreliable and technically deficient. Environmental considerations are not more important than they were in the past; regulatory agencies are now, however, beginning to regulate the environmental quality impacts caused by solid waste management policies and approaches of the past, long-recognized by professionals in the field, and to try to deal with the technical information in the midst of pressures to site landfills. Furthermore, the current waste facility regulations and "state-of-the-art designs" do not ensure "environmentally sound facilities." To the contrary, the lined, "dry tomb" landfills that are characterized by some as "state-of-the-art," at best only postpone groundwater pollution so it will have to be dealt with by future generations, for the cost-savings of today's garbage generators.

The implication of Mr. Michael's statement is that the proposed Puente Hills Landfill expansion is a "state-of-the-art design" and therefore is "environmentally sound." First, the Districts' proposed expansion of the Puente Hills Landfill is not a "state-of-the-art" facility. In an article in *Civil Engineering* magazine, Daniel and Koerner (1991) defined a "state-of-the-art" dry tomb facility to be a double-composite-lined system. The proposed Puente Hills Landfill expansion provides far-less protection than a landfill that is considered to be a "state-of-the-art" dry tomb landfill at a geologically unsuitable site such as the Puente Hills location.

Page 22

Mr. Michael continued his statement (line 21),

"Second premise, the public, at least the vocal minority, has gone from a complacent attitude regarding solid waste to an attitude of high emotion, especially with respect to landfills. Therefore, the issues must be confronted now with solutions that are long-term and far-reaching and not just a band-aid approach."

Mr. Michael's statement with regard to the "high emotion" of the formerly complacent public, does not reflect the considerable technical foundation and justification for legitimate concern about burial of untreated municipal solid waste in dry tomb landfills located in geologically unsuitable sites. The statement quoted above provides misleading information to the Planning Commission because the approach being proposed by the Districts for the expansion of the Puente Hills Landfill is clearly a "band-aid" approach that does not acknowledge or address the legitimate long-term financial and groundwater quality

concerns associated with the proposed Puente Hills Landfill expansion.

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Mr. Michael stated beginning on line 4,

"The Azusa Western Landfill was closed by a court action in 1991, causing about 3,000 tons per day of waste to find other locations."

I was involved in review of the Azusa Western Landfill (Azusa Landfill expansion) and know that that landfill expansion was closed by the State Water Resources Control Board as a result of that Board's finding that that landfill expansion would pollute the groundwater in the San Gabriel Basin. By operating a landfill at the Puente Hills location for another 20 years as proposed by the Districts will greatly increase the magnitude of the groundwater pollution problem that will ultimately have to be addressed by the public. It is certainly much more technically valid and sensible planning to close the Puente Hills Landfill as soon as possible, in accord with the existing plan, and begin now to address the problems that have been created by its use. It is certainly poor planning to allow continued operation of that landfill.

Page 34

Beginning on page 34 and continuing for the next several pages, Mr. Michael discussed the Department of Public Work's position regarding the need for the proposed Puente Hills Landfill expansion. He mentioned the state of various alternative sites. That information should not persuade the County Planning Commission to approve the proposed Puente Hills Landfill expansion, since as quoted above from testimony given by Mr. Frazier with regard to the responsibility of the Planning Commission, regional needs cannot be used to outweigh the significant adverse impacts of the type that would be experienced at the proposed Puente Hills Landfill expansion.

Page 43

Beginning on page 43 and continuing on page 44 is an exchange between Mr. Michael and Commissioners that seems to be directed toward trying to show that the Districts (owners of the Puente Hills Landfill) should be able to control the land uses available to adjacent property owners by constructing a landfill up to near the edge of the Districts' property. Mr. Michael indicated that he was unable to respond to the question of how many homes and schools were in existence on adjacent and nearby property when the Sanitation Districts purchased the property for the landfill, and deferred response to Districts' representative. Clearly there were existing land uses on adjacent properties at the time that the Districts purchased the property for landfilling, that are not now able to be enjoyed owing to the inappropriate manner in which the Districts have been operating the landfill. This is totally inappropriate. Proper planning for landfills provides sufficient buffer on the landfill property so the landfill operations do not adversely affect the owners/users of adjacent properties. It is the disregard of the public health and welfare of nearby property owners/users that contributes to the justified opposition to landfill siting by those who stand to be adversely affected by the landfill. The solid waste management crisis that has been created in many parts of the US is a direct result of the attempts to provide waste "disposal" for cheaper-than-real costs with disregard for and to the detriment of the affected public. It is well-recognized throughout the country that a key component of proper solid waste management planning is the provision for truly adequate buffers on landfill property to prevent adverse aesthetic, public health, and property value impacts on nearby property owners/users, and to aid in the protection of groundwater quality from the landfill.

Page 48

A discussion begins on page 48, and continues on the next several pages of the transcript, of the comparative costs of rail-haul of municipal solid wastes and the use of the Puente Hills Landfill expansion. Mr. Michael provided unreliable information to the Commission regarding the costs of continued landfilling at Puente Hills; he failed to incorporate the true, long-term costs of the existing Puente Hills Landfill or its expansion. An example of the significant misrepresentation of costs for the proposed Puente Hills Landfill expansion, is that the Districts are only considering 30 years of post-closure care. Thirty years is an infinitesimal portion of the perpetual, vigilant care of the Puente Hills Landfill expansion that will be required. The Planning Commission should force the Districts and the Department of Public Works to provide reliable information on not only the initial and near-term costs, but also the long-term costs associated with *ad infinitum* monitoring and maintenance and adverse impacts on local residents and groundwater quality. Without reliable cost information, the Planning Commission cannot properly review the proposed Puente Hills Landfill expansion. While rail-haul of wastes to a properly sited, operated, closed, and managed facility may appear at this time to be more expensive, in the long-term, it will be much less expensive than the use of the proposed Puente Hills Landfill expansion. This arises from the fact that the rail-haul landfill could be sited appropriately, while it is known now that the Puente Hills site is a highly inappropriate site, and thus a much more expensive site to properly manage and remediate.

Page 53 and following pages

Mr. Hanson, Chief of the Solid Waste Management Program, County of Los Angeles Department of Health Services began testimony on the responsibility of that local enforcement agency (LEA) regarding the operation of the proposed Puente Hills Landfill expansion. Mr. Hanson's testimony provided unreliable information to the Planning Commission. First, it is important to understand that there are numerous examples of where the activities of LEA's at landfills have not prevented significant adverse impacts on nearby property owners/users, or prevented groundwater pollution.

On page 55, Mr. Hanson summarized main duties of an LEA to include

"...enforce all conditions contained within solid waste facility permits..."

LEA's cannot enforce all of the regulations. Mr Hanson stated also on page 55, beginning on line 15,

"Acting as the health officer and complying with conditions 15D and 15E of CUP 2235-1, at least one solid waste management program staff member is on duty at all times during disposal operations at the landfill in order to prevent the disposal of hazardous materials."

That statement made by Mr. Hanson is highly misleading. The Planning Commissioners are being misled to believe that there will be no hazardous materials disposed at the proposed Puente Hills Landfill expansion. Those familiar with the characteristics of municipal solid waste know that even with the total preclusion of "hazardous wastes" in a municipal solid waste landfill, municipal solid waste contains a wide variety of highly hazardous chemicals (hazardous materials) that cannot be controlled by load inspection and that are allowed for disposal in municipal solid waste landfills. Vacuum cleaner dust from the average older home, street-sweepings, and many other common household waste materials contain large amounts of highly hazardous chemicals such as heavy metals (lead, cadmium, etc.). Fluorescent tubes and certain batteries, discarded in the household trash when spent, contain significant amounts of mercury. Clearly, the LEA staff member on duty does not remove all vacuum-cleaner bags, broken fluorescent tubes,

nickel-cadmium batteries, and street-sweepings from the waste stream. It is clear that Mr. Hanson's statement of what the LEA accomplishes in terms of prevention of deposition of hazardous materials at municipal solid waste landfills is a gross overstatement and highly misleading. It does not address the large amounts of hazardous chemicals that are allowed to be present in municipal solid waste by the LEA responsible for load inspection.

I have taught a number of short-courses throughout the State on landfills and groundwater quality protection issues in fall of 1992 that were attended by representatives of several LEA's from various parts of the State. From comments, questions, and discussions held at those short-courses, I have become very familiar with the academic background and technical expertise of many LEA's; they do not necessarily have high degrees of expertise in public health and environmental quality protection to recognize and control all hazardous chemicals in the solid waste stream; they recognize that they are not able to exclude from a landfill all materials that could be hazardous or otherwise deleterious to groundwater quality.

Page 57

Mr. Hanson stated on lines 9-11 regarding the purpose for the Waste Management Board's annual review of the operating facilities,

"First is to ensure that all conditions of the solid waste facility permit and minimum standard regulations are in compliance..."

That statement could lead those not familiar with the details of the situation to believe that the LEA activities and review by the Waste Management Board can in fact "ensure" that all conditions are met. It is obvious from review of the operations and activities of the LEA's that this cannot be ensured. While LEA's have been active for a number of years in this responsibility, there has been widespread pollution of groundwater in the State from municipal solid waste landfills.

Page 58

The information provided by Mr. Hanson on lines 3-15 could lead someone not familiar with the actual situation to believe that the LEA's are able to effectively enforce Chapter 15 requirements, as well as other requirements mentioned. Chapter 15 requires, among other things, that waste management units not adversely affect beneficial uses of groundwaters. It is known that 83% of the landfills in the State investigated in the Solid Waste Assessment Test (SWAT) required by the State legislature and conducted by the Regional and State Boards, have been found to be polluting groundwater. Clearly the LEA's have not been able to enforce that requirement.

Page 59

Mr. Hanson acknowledged with regard to meeting the operational requirements for municipal solid waste landfilling of waste (lines 19-25),

"the near impossibility to stay on top of everything perfectly all the time.

In any case, it is remarkable to me and to many Waste Management Board staff, given the size and complexity of the operation at Puente Hills, it is a wonder that there are not more violations than there are."

It is with that perspective and acquiescence to violation of operational requirements that Mr. Hanson, and indeed the other proponents of the proposed Puente Hills Landfill expansion, would have the Planning Commission believe that the proposed Puente Hills Landfill expansion will be developed, operated, and maintained and monitored *ad infinitum*, sufficiently to protect groundwater quality and the public health and welfare of the area residents. Clearly the proposed Puente Hills Landfill expansion will be of even greater "size and complexity" than the current operations.

Page 60

Beginning on line 24 and continuing on page 61, Mr. Hanson stated,

"It is the Waste Management Board's opinion that the conditions of all permits which provide for the protection of air, water, and land from pollution and which are referenced within the solid waste facility permit can and shall be enforced by the LEA."

That statement and following discussion is an unreliable assessment of the ability of LEA's to enforce the various regulations to ensure the protection of air, water, and land from pollution by the landfill. Mr. Hanson has presented a statement of what LEA's are supposed to do; what he should have discussed is what LEA's actually accomplish. Those accomplishments fall far-short, and would be expected to fall far-short, of protection of the public from air, water, and land pollution.

Page 61

Beginning on line 24, Mr. Hanson stated the requirement that

"a certified health inspector from the County of Los Angeles be present during disposal operations to ensure that hazardous waste is excluded from the facility."

It is well-known that the definition of "hazardous waste" at the federal and State levels excludes what constitute large amounts of highly hazardous chemicals (such as lead in paint and soil, street-sweepings which even today contain high concentrations of lead, mercury in fluorescent tubes and certain batteries, organic solvents sold in hardware stores, herbicide residues, etc. all of which can be legally disposed of with household solid wastes) in the municipal solid waste stream. It would be unexpected for Mr. Hanson to admit before the Planning Commission that the LEA staff cannot carry out its responsibilities *"to ensure that hazardous waste is excluded from the facility."*

Page 64

In contrast to other claims made, Mr. Hanson recognized by statements made at this point in his testimony, that the LEA cannot ensure that no hazardous materials will be placed in a municipal solid waste landfill.

Mr. Hanson discussed how self-inspection by the landfill owner/operator is used in waterwell monitoring. A review of the groundwater monitoring data associated with the Azusa Landfill in the San Gabriel Basin shows that that landfill has been known to be polluting groundwater since the mid-1980's and is being allowed to continue to pollute those groundwaters.

Page 65

Beginning on line 15, Mr. Hanson stated,

"In conclusion, I believe that if the Sanitation Districts are allowed to develop the proposed projects in the general manner described in the EIR and considering that today's environmental enactments are very thorough and in many cases enforcement for the compliance is implemented by multiple agencies, the Sanitation Districts must submit technical documents to the permitting agency, such as a report of waste discharge to the Regional Water Quality Control Board and report of disposal site information to the LEA and the Waste Management Board, who will thoroughly analyze the details of the project and ensure that all proposed design and operational characteristics comply with the law.

Today's inspectional procedures by the various regulatory agencies have never been better, in my opinion, and will continue to improve. The Sanitation Districts' Compliance with existing laws has always been excellent, and I see no reason for that to change. Therefore, from strictly a public health point of view, I believe the projects will pose little, if any, threat to public health."

By those remarks, Mr. Hanson is misrepresenting the actual situations that have occurred and will occur in the future with respect to the existing Puente Hills Landfill and the proposed Puente Hills Landfill expansion. The so-called "excellent" compliance credited to the Districts for the existing Puente Hills Landfill has allowed groundwater pollution and the creation of public health and welfare impacts on nearby residents. It is totally inappropriate and unfounded for Mr. Hanson to make the claims of assurance of protection of public health and welfare. A simple review of the operational records and conditions created by the existing landfill refutes Mr. Hanson's claims about the ability of the Puente Hills Landfill, or of expectations for the proposed Puente Hills Landfill expansion, to be operated so as to protect the public health and welfare of nearby property owners/users, and those who would use the area groundwater.

Page 69

Mr. Rod Nelson and Ms Blythe Ponek-Bacharowski of the LA Regional Water Quality Control Board staff began a discussion of that Board's responsibilities for the protection of groundwater quality from landfills in that Region. Their testimony was very carefully worded; without overtly stating such, it could readily lead Commission members to believe that the Regional Water Quality Control Board and its staff can and does have a high degree of reliability in detecting incipient (first-occurrence) groundwater pollution from a landfill of the type proposed for the Puente Hills Landfill expansion, and in preventing further groundwater pollution from occurring once the incipient pollution has been detected. In order to examine the appropriateness of that interpretation of their testimony, all one needs to do is examine the Azusa Landfill situation. As discussed previously, the water quality monitoring data for that landfill that have been submitted quarterly to the Regional Board since the mid-1980's have clearly shown that that landfill has been polluting groundwater. I have personally examined many quarters' monitoring data; each quarterly report for nearly the past decade has shown groundwater pollution from the landfill. That notwithstanding, the Regional Board has allowed that landfill to continue to be operated and pollute the groundwater year after year. There is now a plume of leachate in the San Gabriel Basin from that landfill that has destroyed on the order of \$100 million to \$200 million worth of groundwater as well as the associated aquifer; that groundwater and the associated area of the aquifer can no longer be used for domestic purposes or for conjunctive-use storage. Some of the large amounts of high-quality water being recharged into the aquifer at the nearby surface water recharge basin are being wasted since it will enter the contaminated part of the aquifer.

Pages 76 and 77

Beginning on line 21 of page 76, Commissioner Robinson asked if there has been any infiltration of any leachate into the groundwater at the Puente Hills site. Ms Poněk-Bacharowski provided a very carefully worded response to that specific and direct question. She stated beginning on line 5 of page 77,

"You know, you do the best you can in building these landfills. It's anticipated that there will be either leakage by leachate, which is fluid collected in a landfill, or from a gas migration into groundwater. I mean these systems have to prove protective in perpetuity. And there is a certain de minimus leakage that's always expected from the landfills, but the question is does Puente Hills, does water quality show that they're impacting the beneficial uses of groundwater? The data does (sic) not indicate that they are."

Ms Poněk-Bacharowski has indicated by her answer that the Puente Hills Landfill has leaked leachate and/or landfill gas into the area groundwater, but that she does not believe that that leakage is adversely impacting beneficial uses of the groundwater. As we have discussed in previous testimony on the proposed Puente Hills Landfill expansion, prudent public health practice requires that any groundwater contamination by municipal solid waste landfill leachate be considered a threat to public health of those who consume that water. The details of the technical substantiation for that statement will not be repeated here as they were provided in previous testimony (see appended materials). However, the presence of known hazardous chemicals, conventional pollutants, as well as non-conventional pollutants in municipal solid waste landfill leachate destroys the use of groundwater for domestic purposes. The non-conventional pollutants are not identified or quantified and their public health hazards are not known; yet those pollutants constitute more than 90% of the organics in typical municipal landfill leachate. At best about 200 of the more than 60,000 chemicals in commerce today and potentially present in municipal landfill leachate are measured in monitoring programs. Therefore, even if no drinking water standards were exceeded in groundwater sampled, if leachate-contamination or landfill-gas-contamination is noted the water should not be used for domestic purposes and is therefore use-impaired.

Another important aspect to this issue is the reliability of the groundwater monitoring program and its ability to detect leachate leakage. The monitoring program used at the Puente Hills Landfill is grossly inadequate for detecting leachate migration in that type of geology; there could be widespread groundwater pollution at the existing landfill without its being detected by the monitoring wells being used. This problem of an inadequate monitoring program will be even worse with the proposed Puente Hills Landfill expansion should it be permitted. This is a result of the fact that the monitoring that is done with lined landfills is well-recognized to be essentially worthless for detecting incipient groundwater pollution with landfill leachate, before widespread groundwater pollution has occurred. The problems with reliably monitoring groundwater for leachate contamination from lined landfills like the proposed Puente Hills Landfill expansion are well-recognized in the profession. Because of that situation, I was asked by the National Ground Water Association to organize a special session at its National Ground Water Outdoor Action Conference that was held in Las Vegas last May to specifically address these issues. A number of professionals in the field were brought together in that arena to discuss these issues. There is no question that it is highly inappropriate for the Commission to be led to believe that the groundwater monitoring system proposed for the proposed Puente Hills Landfill expansion will provide a high degree of reliability in detecting groundwater pollution before widespread pollution occurs.

Ms Poněk-Bacharowski did correctly state on page 77 lines 8-10 (quoted above), that the liner

system would *"have to prove effective in perpetuity."* Neither she nor the Commissioners addressed the reality of the system's actually being able to function "in perpetuity." It is well-recognized in the field that such liner systems (used in part of the proposed Puente Hills Landfill expansion) will not function, as conceptualized, in perpetuity; it will leak from shortly after being placed into service, deteriorate over time, and will not be available for inspection or repair owing to its position under hundreds of feet of garbage. The wastes, however, will be a threat to groundwater quality in perpetuity. If the proposed Puente Hills Landfill expansion is developed, groundwater pollution will result that will be greater in magnitude and more expensive to address than the pollution that is occurring from the existing landfill. Unless the existing landfill is closed and the Districts required to take appropriate corrective action, the existing groundwater pollution will become worse and spread to pollute greater amounts of groundwater rendering it unsuitable for domestic water supply.

It is important for the Planning Commissioners to understand that the Los Angeles Regional Water Quality Control Board has determined at other locations in the Los Angeles Basin, that liners of the type proposed for the Puente Hills Landfill expansion, are inadequate for the protection of groundwater. Last year, under the leadership of Mr. Nelson, the Los Angeles Regional Board concluded that even a double-composite liner system, that is far-better than that proposed for the Puente Hills Landfill expansion, would not protect groundwater from landfills located in sand and gravel pits. That conclusion represented a recognition of flawed nature of liner systems of the type being used today, and an advancement in its approach toward groundwater quality protection from municipal solid waste landfills. It would be inconsistent for Mr. Nelson and members of his staff at one location to acknowledge what is obvious - that the liner system will not protect groundwater quality - and yet imply that a lesser liner system would be sufficient for groundwater quality protection at the proposed Puente Hills Landfill expansion.

In developing its regulations for municipal solid waste management, the US EPA (1988a) stated,

"First, even the best liner and leachate collection system will ultimately fail due to natural deterioration, and recent improvements in MSWLF (municipal solid waste landfill) containment technologies suggest that releases may be delayed by many decades at some landfills."

In addition, the US EPA (1988b) stated with reference to lined municipal solid waste landfills,

"Once the unit is closed, the bottom layer of the landfill will deteriorate over time and, consequently, will not prevent leachate transport out of the unit."

The relevant question for Mr. Nelson and Ms Ponek-Bacharowski should have been whether the proposed liner system and monitoring system would prevent groundwater pollution for as long as the wastes in the existing landfill and proposed Puente Hills Landfill expansion are a threat to groundwater quality, i.e., will the proposed Puente Hills Landfill expansion comply with the requirements of Chapter 15. It is important to note with regard to the testimony offered by Regional Board staff, according to comments made by Chairman Wulliger on page 68 (lines 17-21),

"The two speakers this morning [from the Regional Water Quality Control Board, Mr. Nelson and Ms Ponek-Bacharowski] asked me to emphasize that the actual plans for the landfill expansion have not been submitted to the Water Quality Control Board and, therefore, they're not in a position to actually address those specific plans;..."

The ability of landfill liner systems to prevent groundwater pollution for as long as the wastes represent a threat has been addressed by the Los Angeles Regional Board at other locations where the Board and staff recognized in 1992 that liner systems better than that proposed for the Puente Hills Landfill expansion will not prevent groundwater pollution.

Pages 77-78

Beginning on line 17 of page 77, Commissioner Santiago asked if the existing landfill had polluted groundwater of importance to local residents. Ms Ponek-Bacharowski responded beginning on line 1 of page 78 that the local residents get their water from other sources. She was non-responsive to the issue of whether the existing landfill was or will be polluting waters that could otherwise be used for domestic water supply. It is important to understand that the issue is not only whether the wells of the people living near the landfill have been or will be polluted; the adjacent property-owners do not use individual wells for water supply but rather, according to the testimony of Ms Ponek-Bacharowski, are getting their water from a distance but from the San Gabriel Basin. The San Gabriel Basin provides groundwater for about one million people. Because of the hydraulic connection between the Puente Hills Landfill and the San Gabriel Basin, there is no question that it is only a matter of time until the San Gabriel Basin water supply will be polluted by leachate from the existing Puente Hills Landfill as well as from the proposed Puente Hills Landfill expansion if it is developed. This is not a debatable issue; it is obvious from review of the information available on the hydrogeologic characteristics of the region and the characteristics of the material placed in the Puente Hills Landfill.

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Beginning on line 23, Mr. Carry, Chief Engineer and General Manager for the Los Angeles County Sanitation Districts, presented testimony on the proposed Puente Hills Landfill expansion. Many of the distorted and inaccurate information and claims made by Mr. Carry in his testimony before the Planning Commission had also been made by him and his staff in previous testimony before the District's Board of Directors. Dr. Jones-Lee and I commented on the unreliable and misleading information provided by Mr. Carry and his staff to the Board of Directors; those comments are appended to these, and I refer the Commissioners to them for insight into the reliability of Mr. Carry's testimony. Examples of the inaccurate information provided by Mr. Carry and his staff in his testimony before the Planning Commission are presented below.

Page 81

Beginning on line 7, Mr. Carry discussed efforts undertaken to control what he called "household hazardous wastes" from entering the Puente Hills Landfill. While he did not claim that the Districts' efforts are effective in preventing entrance of all hazardous chemicals into the landfill, it is important for the Commissioners to understand that even with the best collection programs for household hazardous chemicals that have been conducted, there are still large amounts of highly hazardous chemicals legally deposited in municipal landfills such as the Puente Hills Landfill. This cannot be prevented by waste-stream control. As discussed above and in previous testimony, hazardous and otherwise deleterious chemicals are present in almost all parts of the municipal solid waste stream.

Page 83

Beginning on line 8, Mr. Carry stated,

"I do want you to know that we've given to the clerk this morning letters of support in one form or another from over 30 cities, and quite a few of the other cities are in the process of providing you with their indication of support as well. So there's broadspread support for the Puente Hills Landfill and the materials recovery facility."

Obviously, cities who have been getting by for years with paying less than the true cost of garbage "disposal" by sending their waste to the Puente Hills Landfill would like to continue to do so. As long as the Districts' continue to misinform the public about the true costs and consequences of this method of garbage "disposal" at the Puente Hills site that will ultimately have to be paid because of the poor quality of the site and inadequate operations by the Districts to protect public health, groundwater quality, and the welfare of those near the landfill for as long as the wastes represent a threat, there will be support for the landfill. As discussed in our comments on the EIR developed by the Districts' staff, the public has not been reliably informed about the problems that will be caused at the existing Puente Hills Landfill and at the proposed Puente Hills Landfill expansion, and their costs.

Page 84

Beginning on line 18, Mr. Carry stated,

"We have emphasized that, according to all of our studies, there are not decreases in property values associated with landfills, and it's our belief that we could then institute a program that would guarantee people of this."

All the Planning Commissioners have to do to judge the appropriateness of Mr. Carry's statement is to ask themselves whether they would purchase property near the Puente Hills Landfill to live in with their families. The area residents have testified about the odors, truck traffic, sea gulls, potential for dust, and eventual groundwater pollution, as well as the inability for them to get fair price for their homes. A recent paper by Hirshfeld *et al.* (1992) discussed the well-known fact that the presence of landfills does decrease property values. It is preposterous for Mr. Carry to claim that property values are not decreased associated with landfills. It is that type of distorted "information" espoused by the Districts' staff on this matter that damages their credibility among professionals who review this matter. While Mr. Carry stated what was apparently represented to be the Districts' staff's "belief" that programs could be instituted to prevent the decrease in property value owing to the proposed Puente Hills Landfill expansion, this effort has apparently not been made to aid those whose property values have already decreased owing to the existing landfill.

Page 84

Beginning on line 23, Mr. Carry discussed looking into the use of project tipping fees to preserve native habitat. He did not discuss the use of funds to purchase buffer lands to extend the landfill property perimeter a mile beyond all landfilled and proposed landfilling areas (i.e., not used for landfilling) to provide greater protection of the area public from the well-recognized significant problems associated with the Districts' operation of the Puente Hills Landfill that are adversely affecting adjacent property owners.

Page 86

While Mr. Carry asserted that the Puente Hills Landfill is a model landfill that serves as a standard for others, based on my more than 25 years' work on landfill characteristics and problems, I can assure the Commissioners that the current operations at the Puente Hills Landfill is no model for other landfills. From my experience, those operations would not be accepted at many other locations.

Page 89

On line 19, Mr. Carry cited costs of landfilling at the Puente Hills Landfill of about \$16 (per ton tipping fee). This means that those whose garbage is deposited in that landfill are paying less than \$0.05/person/day for their garbage to "disappear" from their homes. The additional costs paid by adjacent property owners/users in adverse impacts on their health, welfare, and property values, or those that will be paid by future generations for lost water resources, replacement water supply, and groundwater remediation, have not been considered. The \$0.05 per day being paid by the people currently contributing to the Puente Hills Landfill covers only the initial, near-term costs. Raising the price to \$50.00/ton for rail-haul is painted to be a substantial increase in cost but is only \$0.15/person/day for the "disappearance" of household wastes. It is reasonable to ask whether the people in the Los Angeles area who contribute waste to the Puente Hills Landfill can afford an additional \$0.10/day to send wastes to a properly sited and operated landfill outside the area. A properly sited, designed, constructed, operated, and maintained rail-haul landfill would ultimately be less expensive than the continued use of the Puente Hills Landfill. In my lecturing across the country on landfills and groundwater quality protection issues, I find that people in general are shocked at the low cost of garbage disposal in the Los Angeles area. It is clear to professionals in the field that the Districts cannot possibly provide reliable protection of public health and groundwater resources for the current prices. This becomes more obvious when the characteristics of the Puente Hills Landfill are examined.

Pages 93 and 94

On line 7 begins the testimony of Mr. Maguin, Solid Waste Management Department Head for the Sanitation Districts. Like his testimony on the EIR, Mr. Maguin's testimony before the Planning Commission included highly unreliable and misleading information on the environmental soundness of the proposed Puente Hills Landfill expansion. Dr. Jones-Lee's and my comments on the technical deficiencies of Mr. Maguin's testimony before the District's Board of Directors are appended to these comments. Contrary to Mr. Maguin's claim on page 94 line 16, the proposed Puente Hills Landfill expansion would not be "*environmentally sound, low-cost.*" Understanding of the nature of municipal solid waste, the hydrogeologic characteristics of the site, the actual groundwater protection capabilities of a dry tomb landfill, and the nature of the groundwater aquifer at that site clearly and resoundingly refutes his claim. The Puente Hills site is one of the worst possible for burial of untreated municipal solid wastes. Mr. Maguin's claims do not change that situation.

Page 102

On line 10 begins the testimony of Ms Grace Chan, Supervising Engineer for the Puente Hills Landfill, with the Sanitation Districts, on the environmental aspects of this project. Again, I refer the members of the Planning Commission to our detailed discussion of Ms Chan's testimony in the matter of the EIR for the proposed Puente Hills Landfill expansion appended to these comments. Additional comments on the unreliability of the information Ms Chan provided to the Planning Commission are provided below.

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Beginning on line 10, Ms Chan stated,

"As you heard earlier, the site does not overlie any groundwater supply basin; but you may hear from opponents to this project, as you probably did for the Sunshine Canyon Project, that no landfill should be approved in Los Angeles County because, quote, all liners leak. This

statement is untrue when compared to the integrity of the liner system which is composed of many engineered components that together protect water quality."

Ms Chan is attempting to convince the Planning Commission that liner systems do not leak. Such is a project advocacy claim by the Districts' project leader, which while not surprising based on her role in the project, is not supported by the technical literature or actual practice in the field. No one who reliably reports on what is known about landfill liners and liner systems of the type being developed today, would ever claim that the landfill liner system proposed for the Puente Hills Landfill expansion would comply with the requirements of Chapter 15 to protect groundwater quality from impairment for as long as the wastes represent a threat (i.e., forever). As discussed in our previous comments on the distorted "information" provided by Ms Chan in the advancement of the Districts' position, every one of the components of the proposed liner system will leak and fail to prevent groundwater pollution. Adding the various technological approaches together does not mean that they compensate for all the flaws in the other components. All that is accomplished is some postponement of leakage and groundwater pollution; prevention of groundwater pollution is not accomplished with the proposed approach. Furthermore, the liner system proposed for the proposed Puente Hills Landfill expansion is, in fact, so inferior that it would not be allowed in a number of other states (including New York, New Jersey, Pennsylvania, and Michigan). The US EPA Subtitle D regulations admit that such a landfill liner system will leak. Approval of the proposed Puente Hills Landfill expansion will enable the Districts to provide garbage "disposal" today for costs below those that will be eventually incurred to handle the problems that will, without question, be caused by that approach.

In the statement quoted above, Ms Chan claimed that *"the site does not overlie any groundwater supply basin"*. Ms Chan has carefully selected her words that provide a misimpression to the Commissioners. The San Gabriel Basin groundwater includes all components of the aquifer that are hydraulically connected. The Puente Hills Landfill area is hydraulically connected to the San Gabriel Basin groundwater basin. There is no dispute about that issue. Ms Chan's statement is false and misleading, and a distortion of information developed by the Districts.

Ms Chan went on to assert (lines 23-24) that the Puente Hills Landfill cover *"minimize[s] the infiltration of rainwater through the surface."* but that *"A final cap, placed at closure, will continue to keep moisture out."* (page 105, lines 1-2). Again, Ms Chan's testimony is highly unreliable and not in keeping with what is well-known in the technical literature on the topic. No one with knowledge of the technical information available today on landfill covers would claim that they would keep moisture out of the landfill for as long as the wastes represent a threat (i.e., forever). Without question, landfill covers are well-known to allow passage of moisture through them; it is impossible to use the types of materials proposed for the proposed Puente Hills Landfill expansion and expect to keep moisture out of the landfill.

Page 105

Ms Chan stated in lines 3-8,

"We have never experienced any leachate formation at the Puente Hills Landfill or at any other District landfill. It's with this minimal potential for leachate formation in mind that we should view the extensive engineering features of the water quality protection system."

A review of the Solid Waste Assessment Test (SWAT) results of the State Water Resources Control Board

shows that landfills throughout the Los Angeles Region are producing leachate that has polluted groundwater. While landfills in arid areas produce less leachate in dry years than landfills in wet areas, they produce large amounts of leachate in wet years such as the current year, which leads to groundwater pollution.

Page 105

Ms Chan described the so-called subsurface barriers composed of a mixture of cement and bentonite. The proposed barriers are not sufficient to prevent all migration of leachate that will be produced in the landfill and pass through the liners into the groundwater beneath the landfill. The barriers will not prevent leachate from migrating through them or around them for as long as the wastes represent a threat (i.e., forever). Ms Chan continued on to state (lines 19-21),

"The barriers will prevent any connection between local alluvial deposits and off-site water supplies. Monitoring wells on both sides of the barriers provide for continuing surveillance of the effectiveness of the barriers. In addition, other wells surrounding the site are also monitored."

Her statement is false. As discussed above, the so-called barriers will not prevent connection between local alluvial deposits and other geologic strata beneath landfill and off-site water supplies. Furthermore, the monitoring wells will not provide for reliable, much less unequivocal, detection of incipient groundwater pollution before widespread groundwater pollution has occurred.

Page 106

Beginning on line 1, Ms Chan recounts the components of the proposed liner system for the proposed Puente Hills Landfill expansion. The composite liner is a thin plastic sheet overlying compacted soil. Such a liner will leak from the time of construction; this has been well-documented both in theory and in practice. Furthermore, the integrity of the liner will deteriorate over time; this is obvious basic chemistry. Ms Chan continued with unfounded and unreliable claims of the groundwater quality protection performance expectations for the proposed Puente Hills Landfill expansion. She has made similar claims in the past in connection with the EIR; we have discussed their lack of validity and the technical basis for their lack of validity in previously submitted comments (see appended materials).

Page 111

Beginning on line 16, Ms Chan repeated claims about the types of wastes that would be accepted and excluded from the proposed Puente Hills Landfill expansion. She stated,

"As mentioned earlier, the proposed site would receive only nonhazardous solid waste, and that means that hazardous waste must be prevented from being disposed of at the landfill. You may hear from opponents of the project that disposal of significant quantities of hazardous waste at the site is inevitable. We disagree and I'd like to describe for you our screening program, which we've seen to be very effective in the current operations as you've heard earlier."

Again, the "information" being presented by Ms Chan is highly distorted and misleading. Dr. Jones-Lee and I have noted the misleading nature of statements of that type in the past with regard to the proposed Puente Hills Landfill expansion. As we have pointed out in our previous comments, the classification of

wastes as "nonhazardous wastes" does not mean that the materials do not contain hazardous or otherwise deleterious chemicals. Waste classifications are operationally defined based on the RCRA waste classification approach. While it may be possible to prevent entrance of large amounts of what are classified through RCRA to be "hazardous waste" into a municipal solid waste landfill, it is not possible to eliminate the deposition of large amounts of hazardous and otherwise deleterious chemicals (which make "hazardous waste" hazardous) in a municipal solid waste landfill; much of what is legally disposed of in a municipal solid waste landfill contains highly hazardous and otherwise deleterious chemicals. This is due to the fact that the US EPA and State's definitions of "hazardous waste" exclude certain types of wastes and materials from that classification even though they are known to contain large amounts of hazardous chemicals which make a "hazardous waste" hazardous. This is an operational definition used by regulatory agencies to reduce the size of the waste stream that has to be handled as "hazardous waste." Ms Chan's "information" on this issue is highly unreliable and distorted. The municipal solid wastes that have been going into the Puente Hills Landfill and that would be deposited in the proposed Puente Hills Landfill expansion will contain large amounts of hazardous chemicals as well as conventional and non-conventional pollutants which will be a threat to groundwater quality forever. Since the liner system that the Districts have proposed for the landfill expansion cannot keep leachate out of the San Gabriel Basin groundwater system, it is only a matter of time until groundwater in the San Gabriel Basin becomes polluted by leachate from the Puente Hills Landfill and its expansion.

Page 112

Ms Chan stated on lines 2-3,

"All vehicles entering the site pass radioactivity monitors."

That statement could lead someone not knowledgeable in the topic to think that all potentially hazardous radioactive materials contained in waste loads would be detected by the passing of the vehicle by radioactivity monitors. Those familiar with the elements of radioactivity monitoring and the characteristics of radionuclides (radioactive chemicals) know that radioactivity monitoring of the type proposed detects only a some of the radionuclides that are highly hazardous to public health. In fact, some radionuclides that would be of greatest public health concern in drinking water would go undetected by the type of monitoring program the Districts have proposed. Radioactive materials could readily pass the detection system proposed by the Districts and never be seen by the monitoring system because the kinds of radiation that are detected by the monitoring system are present in only some radionuclides.

Beginning on line 7, Ms Chan stated,

"Heavy equipment operators who are responsible for compacting the refuse are also trained in the identification of hazardous materials."

Ms Chan is asking the Commissioners to believe the a bulldozer operator will understand that the street-sweepings, household vacuum-cleaner bags, broken fluorescent tubes, batteries, etc. that will be present in the landfill, are hazardous materials (i.e., contain hazardous chemicals), and that that operator will have all such materials removed from the landfill. Her statement is not credible. A bulldozer operator may spot large drums which may contain hazardous material; he would not be able to recognize or effect the removal of all hazardous materials typically present in household wastes that could contribute hazardous or otherwise deleterious chemicals to leachate and eventually to the groundwater of the area.

Beginning on line 17, Ms Chan stated,

"As Mr. Carry mentioned, one other method that the Districts employ, which is important for preventing the disposal of hazardous materials, is household hazardous waste roundups in conjunction with the county. These one-day events held regularly throughout the county give the public the opportunity to properly dispose of these materials so they don't get combined with household trash."

As noted above, anyone who has reviewed the efficacy of household hazardous chemical collection programs knows that only a small part of household hazardous chemicals are collected in such programs. Contrary to the statement made by Ms Chan quoted above, household hazardous chemical collection programs do not prevent the disposal of hazardous materials in MSW landfills.

Page 113

Beginning on line 6, Ms Chan stated with reference to photos she was showing the Commissioners,

"On the left, you see a photo taken at one of the recently held household hazardous roundup events. Last year approximately 300,000 gallons of household hazardous waste was collected."

Based on estimates of the amount of hazardous chemicals that are put into municipal solid waste streams by homeowners, the Districts' collection of 300,000 gallons of household hazardous waste represents about 10% of the hazardous chemicals that would be expected to be disposed of in the Puente Hills Landfill by residents of the Los Angeles area.

Ms Chan also discussed the program that the Districts have conducted on controlling noise, dust, and litter. Appended to this testimony are photographs of the litter that I took last fall along the roadways associated with the Puente Hills Landfill. The Districts have not been doing a good job in litter control. It is interesting that Ms Chan did not mention the issue of the severe odor problems experienced by property owners/users in the vicinity of the existing Puente Hills Landfill. That problem will intensify as the waste disposal operations are moved closer to the adjacent properties. While in previous testimony in other arenas Ms Chan asked the audience to believe that the Los Angeles County Sanitation Districts' garbage does not have odors that cross the landfill property lines, she did not inflict that argument on the Planning Commission. It is clear that the Los Angeles County Sanitation Districts' garbage is just like other garbage and that it does have intense odor that can and does cross property lines. This is a reason that landfills are not built immediately adjacent to others' property as the Districts are proposing to do with the proposed Puente Hills Landfill expansion.

Page 117 and 118

The information that Ms Chan presented on the impact the existing Puente Hills Landfill and the proposed Puente Hills Landfill expansion has and will have on property values is simply unreliable as discussed above. There is no question that the use, enjoyment, and value of adjacent properties are being severely impacted by the existing landfill; this will get worse with the landfill's expansion.

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Ms Chan reported her "confidence" in the Districts' landfill operating experience. Because of the

unreliability of her reporting on technical information, the reliability of her overall assessments of this type must be called into question.

SUMMARY

In summary, the Los Angeles County Department of Public Works, and the staff of the Sanitation Districts have provided the Planning Commission with unreliable information regarding the environmental impacts of the existing Puente Hills Landfill and those that will be expected to be caused by the proposed Puente Hills Landfill expansion. Furthermore, they have grossly underestimated the true costs of municipal solid waste management at the Puente Hills Landfill. The Planning Commission should stop the after-the-fact "planning" in support of the Districts' inappropriately developed operations for managing municipal solid waste and adopt a technically reliable, pro-active planning approach. A proper evaluation should be made of a proposed site for a municipal solid waste landfill by disinterested parties so that the site and any engineered features, such as liners, etc., incorporated to try to compensate for geological unsuitability, would be evaluated under plausible worst-case scenarios. Further, the public should be reliably informed of the consequences of the inevitable failure of inappropriately sited and designed landfills and of the true long-range costs of the proposed landfill expansion.

The significantly different discussions provided to the Planning Commission on these technical issues of the proposed Puente Hills Landfill expansion by the project proponents (Districts' staff, County staff) and by us do not simply represent differences among experts. The project proponents have not provided credible technical information and reliable documentation in support of their positions on the technical issues. Indeed, much of the "information" provided by the project proponents regarding issues of protection of environmental and groundwater quality, and public health and welfare is readily recognized as being unreliable and not in keeping with published information and practical experience in the field. If the Commissioners, members of its staff, or others dispute any of the technical information or positions reflected in these comments or in the appended materials, I request that you require that the point(s) of contention be articulated and substantiated in writing for our review and comment in accord with standard professional peer review approaches. I am confident that a proper peer review of the technical issues will further demonstrate that the Puente Hills Landfill should not be expanded.

References

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