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Hearing on DWP Proposal on Toxic Stripping Towers

Senate Select Committee on Governmental Efficiency

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Hearing on
**DWP Proposal on
Toxic Stripping Towers**

April 19, 1985

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Public Hearing
**The Impact on the Health of Area Residents
of A Toxic Water Stripping Tower
Proposed For A North Hollywood Residential District**

Auditorium
North Hollywood High School
5231 Colfax Avenue
North Hollywood, California

Friday, April 19, 1985
9:30 A.M.

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SENATE SELECT COMMITTEE ON GOVERNMENTAL EFFICIENCY

HEARING, APRIL 19, 1985

NORTH HOLLYWOOD HIGH SCHOOL

SENATOR ROBBINS: I would like to convene this hearing of the Senate Select Committee on Governmental Efficiency, which is being held here in the auditorium of the North Hollywood High School.

First, I would like to introduce the Principal of North Hollywood High School, Dr. Whittaker.

DR. WHITTAKER: Thank you, Senator Robbins. Ladies and gentlemen, I would like to welcome the Select Committee on Governmental Efficiency and you, as individuals, to North Hollywood High School. If you notice, we do have in the audience some of our history and government classes present. Hopefully, this will be of tremendous benefit to them to see government in action. I sincerely hope that your meeting will be a very successful one. Once again, welcome to North Hollywood High School, and once again, thanks to Senator Robbins for this privilege.

SENATOR ROBBINS: Thank you very much, Dr. Whittaker. It's a privilege to be at North Hollywood High School. I was a student here many years ago and it is my privilege now to represent North Hollywood and the remainder of the San Fernando Valley in the California Senate.

The purpose of this hearing is to evaluate the reason why the Department of Water and Power obtained a permit for the construction of a 45-foot tower in the North Hollywood area.

North Hollywood has a very serious problem of toxic chemicals in ground water. The toxic chemicals that are specifically involved here--and I will do my best to pronounce them correctly, I am more accustomed to dealing with political terms--they are referred to as TCE and PCE. TCE refers to

Trichloroethylene and PCE refers to Perchloroethlyene. These are toxic chemicals that present a very serious health hazard. They have caused problems in the past ranging from minor problems of dizziness and nausea to more major problems of brain damages and in some cases, depending upon the level of exposure, death.

The fact that our city Department of Water and Power would propose placing a tower for the purpose of blowing these chemicals into the air in the residential area of North Hollywood is a thing that concerns me. I understand, and I think that before this hearing is over we will be hearing from the Department of Water and Power--we will be hearing from some people in the community first--I understand that the Department of Water and Power is willing and has been willing for some time now to modify their proposal and to move it to a different location. We are interested in the health hazards of that and want to know what hazards will be coming from that.

But I am particularly concerned as to how a permit was ever issued for the purpose of erecting this tower in a residential neighborhood. I am particularly concerned since obviously a tower that blows toxic chemicals 45 feet in the air in a residential neighborhood does not seem to be to be very candidly prudent. I will not try and kid anyone and say I am an objective observer. I am not, and I do not pretend to be. I represent the community of North Hollywood, and I am the author of legislation that would prohibit the Department of Water and Power now and in the future from building a tower for purposes of putting toxic chemicals in the air anywhere within 330' (which is 100 meters) of any residential structure.

Let me first ask for some of the representatives of the community who wish to speak to come forward. What I would like to do is give the community the initial 15-20 minutes, then ask the Dept. of Water and Power to come up for an equal amount of time to respond to the concerns that have been raised in the community.

IDA HONEROFF: My name is Ida Honeroff. I've lived in Los Angeles County for the last 20 years and I am concerned with all types of environmental pollutants; and this can be one of the worst.

HERMAN MULMAN: My name is Herman Malman. I am president of Seniors for Political Action. I represent several hundred seniors in the North Hollywood/Van Nuys area and I live no more than one-half mile away from this technological boondoggle they are proposing to place before the people in the North Hollywood area.

SENATOR ROBBINS: Arthur, since you are seated on the end, would you care to speak first? For this initial opening round I would like each person to try to limit his or her remarks to five minutes...Pardon? The mike will be moved as each person speaks. We are trying to keep this on audio to make it easier for everyone. Arthur, since you are going to start, why don't you move the...

ARTHUR SWEET: Actually the merchants and business people in the North Hollywood-Universal City area are vitally concerned with any type of activity that is going to influence the environment. I am here primarily on an investigative and information gathering mission in order to be able to present the information developed by the Department of Water and Power and your staff so that we can consider the situation in our future meetings and take a definite position.

SENATOR ROBBINS: Thank you very much, Art. Mary Ann Geyer...If you don't want to make a statement you don't have to. Just because we have asked you to keep it down to five minutes doesn't mean that you have to make a statement if you would prefer to observe more than speak.

MARY ANN GEYER: Senator Robbins, I would like to thank you on behalf of the constituents of our district on the legislation that you introduced on April 10, SB 1460, and also we are very anxious to hear what happens with the Toxic and Public Safety Management Committee on April 24 when they hear and reply on this issue.

We have major problems as far as landfills and the stench that's coming through North Hollywood right now, primarily from the landfills. I talked to a number of students outside who were not even aware how many wells within our district had been shut down and the percentage of our water that is contaminated. The Department of Water and Power has also released documentation proving that there is 5% asbestos in our water. All these chemicals are going to be burned off through the tower, including TCE and PCE.

Also, there are two towers in San Gabriel Valley, one in Arcadia and one in Irwindale. They were opened in 1982. These towers are operating--one has been completely shut down and one is operating infrequently. The cancer, asthma and arthritis problems that have happened related to these chemicals are documented right now. Kids, get involved. It is something that is going to affect you and your children and I cannot tell you how important it is. Get involved with a homeowners association, any type of community group, stay involved with your political representatives and let them know that you want to work with the community and protect your homes and your lives. Thank you.

SENATOR ROBBINS: Thank you. Art, would you help her move the mike down a bit.

IDA HONEROFF: As an individual who has been concerned and active in environmental contaminants, I think that not only the people of North Hollywood, but people all over the state should be concerned with the gimmick that is being employed now. The fact that AQMD has approved it is outrageous because I think their faces are still smarting from the action they pursued on the contaminants that were emanating out of the Mobile plant just a few miles from where I live.

The issue of cancer and tetrachloroethylene and trichloroethylene--all these contaminants that have gone into the water--is an important issue. But to transfer the problem of these contaminants in the water and shoot them into the air is absolutely outrageous. We know that cancer is a burning issue and these chemicals have been proven to cause cancer--but they will also get into the

respiratory tract if this measure that will be undertaken by the Dept. of Water and Power is allowed to become a reality.

I am reminded of the incident with the aerial spraying of malathion throughout a good deal of Los Angeles County. Even though the Agricultural Commissioner and our County Health Commissioner, even the State Health Department, assured us that no one would be harmed and that it is safe. Yet there is documentation that people have been harmed. Just five months ago California Occupational Safety and Health did admit that one three-year old child was almost killed because of the malathion that had been spread aurally.

Now when these contaminants finally drop down they are not going to drop down solid from the area in which they are spewed. They are going to spread all over the place. What is the wind velocity at the time these things are allowed to shoot in the air? What is the Health Department going to do about it? They didn't notify any hospitals when the Malathion was aurally sprayed. Had they notified the hospitals, what doctors would be able to recognize what the symptoms are? We are not only talking about cancer that may develop 20-30 years from now. We are talking about the respiratory diseases and every other kind of disease. I think that it would be a valuable experience for every one of the students that are sitting in this auditorium to get out there and spread the word throughout the neighborhood and tell them "Hell, no, we won't allow it."

SENATOR ROBBINS: I understand, and I think the DWP does too, that the sympathies in North Hollywood community are not receptive to the proposal to add additional chemicals to our already light brown air that we breathe. However, I don't want the meeting to get too loud and unruly. Herman?

HERMAN MULMAN: Thank you, Senator Robbins. I appreciate your interest in this vital health problem. There have been some incredible statements made in the press releases by the Department of Water and Power. One of them was that, and I will read it, "the proposed tower site was changed to a new location in an

industrial area for aesthetic reasons." Not for health reasons, but for aesthetic reasons. I guess they will grow ivy up the sides of the 45' tower so that we won't know that its there. And I also guess that the working people in the factories around that tower do not breathe while they work, so they will not be affected by those toxic fumes. I think that the attitude of the Department of Water and Power is cynical and incredible.

There is also the question which has not been addressed about the million dollar cost for each tower. Are they going to build a forest of towers around the North Hollywood area so that we can get all the toxic pollutants out of the water, at a million dollars apiece? And who will pay for it? The public, of course. Not the people who do the polluting. They will get off scot-free as usual.

Now of course there is also this "invisible hand" concept by the Department of Water and Power. They will place the tower 300' away from residential areas. That means that this "invisible hand" will stop the flow of the toxic waste at 300' and drop down somewhere. That is our protection--it won't go beyond 300'. Now how they can possibly try to sell such garbage to the public is beyond me.

There are many other incredible statements made by the Dept. of Water and Power. The usual is that "this is a low cancer risk." Even when the Three Mile Island was melting down, that was the first statement that was made, that there is a low cancer risk by the meltdown. There is never anything but a low cancer risk. Now how low is a low cancer risk? How many people in this audience would like to be subjected to a low cancer risk?

These things have got to be stopped at their conception, and people like the Dept. of Water and Power have to be ordered to go back to the drawing board and come up with something that is feasible and that has some kind of reality to it. There is no reality to this ridiculous plan of 45' towers. Also, it has now been found out that the people living in the second floor of apartments will be

more affected by this than the people who are on the fourth floor or the first floor. So now, if you are living in a second story apartment, please move. Your life is in danger. I mean, it goes on and on. Also I resent the fact that this hearing was given such little publicity. This is a typical public hearing--9:30 on a Friday morning, when all the public is at work or there are people in school. Whatever it is. The only reason we have this many people here today is that we have a captive audience of North Hollywood students. Otherwise, this auditorium would be empty.

I saw it in yesterday's L.A. Times, otherwise I would not have known that there was going to be a hearing on this. I have attended public hearings for the past twelve years from different agencies, and this is a typical procedure. As little possible information and public notice is given to the public so that they don't know what's going on and what is being done to them.

SENATOR ROBBINS: Herman, let me assure you that with the various representatives of the media present we can surely count that they will carry the story to let the public know what is being done to them.

I also want to correct just one statement that you made, and I am not any way a proponent of the plan, but the cost of the towers that I and my staff were given, would be under \$600,000 per tower. I am not saying that is something that I am eager to see spent, but that is the actual figure.

If any of the students have to leave, please don't hesitate to do so, and thank you for having been here.

HERMAN MULMAN: Senator Robbins, the Daily News had a \$600,000 figure and the Times had a one million dollar figure. Of course, we are not counting the cost overruns in any of these projects. With the cost overrun procedure, it could wind up to be two or three million. That's pretty normal in government contracts.

IDA HONEROFF: And the cost is immaterial. We are concerned with health costs.

HERMAN MULMAN: But I would like to repeat that every time we have an issue like this where toxic waste is involved they always tell us that the health risk is minimal. I don't know who they may be talking about, who is willing to accept minimal cancer risks.

SENATOR ROBBINS: Certainly, I would not disagree. I am certainly not prepared to accept minimal cancer risk myself.

What I would like to do is to have the people who are here from the community take seats and have representatives from the Department of Water and Power and the South Coast Air Management District come forward.

I just want to make sure, have I missed anyone who wishes to testify from the community?

Why don't you take one of the seats at the table.

I would like to start with the DWP and South Coast Air Management in a few minutes, so if you could please state your name, the group you represent, if any. Why don't the two of you sit together so we won't have to move the mike. Make a brief statement on your concerns or thoughts on the matter.

LAURA BAKER: My name is Laura Baker, and I'm the mother of two, so I guess I kind of represent young families here in North Hollywood.

My only statement is, I realize what we are dealing with here--an incredible problem--and there's not any ready solutions. It's very difficult. With the little bit of knowledge that I do have it seems absolutely incredible to me, the plant that is being made to put these things into the air. I do live here in North Hollywood and do plan on living here for awhile. And this scares me to death. I have two babies, and it scares me to death for them. I know people who are pregnant, and it is very scary to think that they will be carrying on their pregnancy here with these things in the air when we have so much already.

I hear about things happening up North and in different areas where they have put out different things into the air where women are not able to have children, where there are stillborns and children born with many different birth defects. I realize that this is not an easy task, or an easy problem to take care of, but I wish there was more effort put towards helping people rather than just doing these things to people.

SENATOR ROBBINS: Thank you very much for your statement.

WILEY ROBERTS: Yes, my name is Wiley Roberts. I am also a member of the North Hollywood community. Also I live in very close proximity to the first proposed tower site and also very close to the second proposed tower site. Also, I have experience with TCE. In fact, the use for it is to remove oils and grease from manufactured metal parts. I am a traffic manager at an aerospace company and I know what this stuff can do.

If in fact the ground is polluted with this stuff, I think that we should go after the polluters. I know that is a difficult problem because all over the country the EPA has been having big problems getting it down; plus the EPA has been having problems in itself.

The affects of TCE, if in fact you get it on your hands, for instance, it dries up your skin to the point where it takes a tremendous amount of Vaseline just to get your skin lubricated again. That's TCE. This is the chemical that is supposed to be underground under our wells that the DWP proposes to shoot into the air. And as some of the members of the homeowners association and other members who were here earlier stated, there is no way to control this stuff once it gets into the air. You can get it out of the water, but you can't get it out of your lungs or your skin. So I am hoping, because I am the father of two kids, that something else can be done in terms of cleaning up our water, which stinks now, which has a bad taste. If in fact, you look at our water under the light, you will see traces of oil in it. I hope that something can come out of this.

Senator Robbins, thank you very much sir for bringing some attention to it, because the people in the immediate area of these proposed sites do not normally take part in any type of political activity. They go to work--where I'm supposed to be right now--they go to work every day, they try to raise a family, they try to make out a meager living for themselves. If, in fact, the DWP is just going to throw these things in our community we have a big problem. We have Big Brother here and we have a big problem. I am kind of emotional about this and it is hard to get it all out. But when you think in terms of cancer, you think in terms of a long period of exposure. That might be true, but a short period of exposure over a long period of time can cause cancer.

We have lots of kids. The kids in the particular area of these proposed sites are the largest amount of kids in the North Hollywood area. I thank you sir for the time, I thank everyone else and just hope that the quality control management can find another way to deal with this, and I am sure the DWP can--mainly by going after the polluters. Thank you.

SENATOR ROBBINS: Thank you very much. Let me ask Duane Georgeson, Assistant Manager of the Dept. of Water and Power, to come up and take a seat at the witness table; and also for Sanford Weiss, who is Director of Engineering for the South Coast Air Quality Management District.

I know that the lady with him is a City Councilwoman from Glendale. I apologize for not having your name at my fingertips.

GINGER BREMBERG: No, I'm sure you have only heard a thousand names today. Ginger Bremberg.

SENATOR ROBBINS: Thank you very much. Seated at the table with me are representatives of various Valley elected officials. Assemblyman Katz, Congressman Berman, and State Senator Rosenthal. They will be asking you questions following your remarks. Do any of you have a statement you wish to make before they begin, or shall we go ahead and have the DWP...

Let me say, Mr. Georgeson, that I think DWP was getting an idea before today of how the community felt about the proposal, and I hope that it has served as a consciousness-raising session to a certain extent for the Department of Water and Power.

I think when we talk about a situation where a government entity is engaging in the physical work that there is a normal concern in the community. People say well, when they go before a group like the South Coast Air Management District, they receive preferential treatment and the district presumes that since they represent government that they wouldn't do anything to hurt the people and that the proposal would not get the same scrutiny as something from Mobile Oil or from a private company.

I don't really believe that's necessarily the case. In fact, it is fairly obvious that if a chemical is being put in the air--whether it is being put in the air by DWP or by Mobile Oil or a fire in a Sun Valley storage facility, whichever is the case--if you breathe the chemical in, you have the chemical to deal with.

There are several questions. Obviously, the first question in everyone's mind that everyone would like to hear is that DWP is not going to be building the proposed tower in the location proposed in North Hollywood that was originally contained within the district permit that was issued. I think we should start with DWP and then the other people at the table can speak in whatever order that they like. Then we will go on to several questions that I have and I am sure the other elected officials do as well.

DUANE GEORGESON: Thank you very much, Senator Robbins. My name is Duane Georgeson and I am in charge of the water system for the Los Angeles Department of Water and Power. I am pleased to be joined with Ginger Bremberg, a member of the Glendale City Council.

As you know, we have worked very closely with the City of Los Angeles, the City of Glendale, Burbank, San Fernando, the Crescenta Valley County Water District, and representatives from various community industrial groups over the last four years to deal with a matter of great concern to all of us who live here in the San Fernando Valley.

The concern that we have, and it has been referred to earlier by previous speakers, is the fact that an incredibly important resource to the people of Los Angeles, and in particular to the people of the San Fernando Valley, has over the last 30-40 years become subject to pollution from chemicals--trichloroethylene and tetrachloroethylene. The concentrations that are in the groundwater basin have only been measurable in the last few years because the concentration is incredibly small. I'm not saying that we're not concerned, but until 1980 we apparently did not have instruments available to measure the small concentrations of TCE and PCE.

SENATOR ROBBINS: I was given some figures in Sacramento that the North Hollywood groundwater contamination problem was among the five worst groundwater problems in California. Is that consistent with your evaluation today in 1985? I understand...

DUANE GEORGESON: There are many ways of categorizing groundwater pollution. I read in the morning paper that there are over 1,000 wells in the Sacramento/San Joaquin Valley that are polluted with a pesticide called DBCP. But, you are quite right. We are concerned about groundwater pollution in the San Fernando Valley, just like they are concerned about groundwater pollution in the San Gabriel Valley, and I understand that the areas toward Riverside and Orange County with the very sophisticated new instruments we have, are likewise discovering small concentrations in groundwater.

Let me explain briefly, if I can, how the groundwater supply fits into our water supply picture in Southern California. Southern California as a whole

gets about half of its water supply from wells. One concern that we have to keep in mind is that we can't lightly give up on the use of our groundwater supply. To do that would mean that we would have to double the amount of water that we need from the State Water Project. Given the attitude of the voters in Northern California, who rejected the water supply measure on the ballot a couple of years ago--voting against it 9 to 1--obviously, none of us in Southern California are in a position to lightly walk away from our groundwater supply.

Thus we have to keep in mind that we need to do a better job of protecting the groundwater basin in the future and to clean up this minute amount of pollution that has gotten into the groundwater basin.

A second matter of importance to us in terms of the groundwater basin--and its very appropriate this being Earthquake Week--is that during a future earthquake all of the imported supplies to Southern California could, say in a movement along the San Andreas Fault, be severed. Thus we would find ourselves in a position that the only reliable supply we might have other than a small amount of reservoir storage would be from these wells. So all of us who are concerned about the needs of people--particularly during an interruption such as an earthquake--have got to protect these groundwater supplies. As a matter of fact, we need to make greater use of those supplies for earthquake preparedness and to get us through the droughts when the people of Northern California, once again probably, will be unwilling to share any water from the State Water Project.

Let's take a minute about this pollution that has gotten into the groundwater basin. What is trichloroethylene? What is tetrachloroethylene? Trichloroethylene (TCE) is in layman's vernacular, drycleaning fluid. We used to buy it in cans at the grocery store called "Energine". I've used it many times to remove spots from my coat or necktie. As a matter of fact, it used to be very widely used in the hundreds and hundreds of drycleaning establishments

we had throughout our community. Many, I might say, are located in residential areas. So TCE is a substance that all of us have grown up with and as a matter of fact have lived with for many years. It was removed as a drycleaning fluid 15 or 20 years ago, I understand, by the Air Quality Management District because it contributed to our smog problem. Generally speaking, it was replaced with tetrachloroethylene. Tetrachloroethylene is today being used in most of these drycleaning establishments.

The other think we might keep in mind is what do these numbers mean when we read in the newspaper that the action level for TCE in groundwater is 4-5 parts per billion? Five parts per billion is roughly equivalent to one drop in a backyard swimming pool. If you took the amount of water that we typically drink in our lifetime, it is about half of what you would find in a typical backyard swimming pool. Half a gallon of water for 70, 80 or 90 years is about half a swimming pool. So when you talk about 5 parts per billion being the action level for TCE or PCE, what you would find then is over a lifetime of an individual they would be taking in about half a drop of TCE or PCE over that 70 or 80 year period, of a substance we used to buy in a can called Energine, into your body. We are talking about incredibly small concentrations. Because of that small concentration, we didn't discover the substance in our drinking water until 1980. Undoubtedly, it had gotten into the drinking water supply many decades ago.

Now how are we working together with Burbank, Glendale and San Fernando and the business community in order to deal with this? One of the things we've done through this cooperative effort is to develop a groundwater quality management plan. This was put together two years ago; I would like to leave a copy with you and all the other representatives and elected officials to show you what efforts have been under way now for several years to responsibly deal with this problem. This plan was developed in this cooperative fashion over a three year

period with State Health Department involvement, the Environmental Protection Agency, the County Health Department and the Regional Water Quality Control Boards, who came up with an 8-point program. The 8-point program is focused on providing protection for the groundwater supply that we are going to continue to rely on; and also--and the subject of our hearing today--how do we deal with the pollution that has already taken place?

I might comment that this plan has been adopted by the Los Angeles City Council, the Glendale City Council, the Burbank City Council...

SENATOR ROBBINS: When you say "this plan", does that mean that the Los Angeles City Council has approved the proposal to build a 45' toxic tower in a residential section of North Hollywood?

DUANE GEORGESON: That specific proposal has not been directly acted on by the Los Angeles City Council. However, the plan contemplated--a program of containing the pollution and removing it--there was discussion in the plan, although it was subject to detailed implementation. There was a proposal in the plan to use aeration as a means of removing the TCE and PCE. That's in the plan.

We have also been looking into other more innovative approaches to removing the TCE and the PCE. Several months ago we conducted a series of experiments using a treatment process with ozone and with ultraviolet rays. That process was mildly successful, but we are not satisfied at this point that it has a proven effectiveness.

Aeration towers have been built, as it has been mentioned, in a number of places around the state of California. Sacramento, our State Capitol, has been operating one in conjunction with the cleanup of Aerojet for several years. There are several towers in Southern California and many other locations around the country--Scottsdale, Arizona has had one in operation for a year or two.

We applied a year ago to the Air Quality Management District for a permit to build a tower for a pilot project to try and contain this TCE and PCE. Unless we do something about pumping the contaminated water out and treating it we are concerned that it will spread to even more wells than are presently contaminated. Thus, there is a certain amount of urgency needed here to drill wells, to tap the contaminated water, and to remove the TCE in a safe way. A year ago we applied to the Air Quality Management District for a permit. They reviewed it carefully. 4½ months after our application we received a permit. We did not proceed immediately to construct the plant because, as I mentioned, we were trying to find an even better way of removing the organics with the ultraviolet ozone process.

SENATOR ROBBINS: When you say a permit, you're referring to a permit to build a 45' tower at approximately Van Owen and Lankershim in North Hollywood.

DUANE GEORGESON: That's correct. So we received the permit back in September. We did not proceed immediately with the construction of the tower. In the meantime we were studying the pattern of the occurrence of the TCE and PCE and also looking for a location that perhaps would be less subject to community concern.

SENATOR ROBBINS: Let me ask you a question in conjunction with the permit process, were any of the elected officials that represent the immediate area notified at the time the application was made?

DUANE GEORGESON: I can't say for sure. I know that the city council member who represents the area where the tower was to be located had a member of his staff continuously serving in an advisory capacity on our technical advisory committee. I think we have been remiss in not keeping your office and Assemblyman Katz and Congressman Berman's office as informed as we should have. We intend to work much harder at that in the future.

SENATOR ROBBINS: Let me ask one other question about the permit process. If someone were going to change the zoning and instead of building one house, build a duplex, there would be a zoning hearing. All of the neighbors within a radius of so many feet--at least 500' under the city charter--would be notified. There would be a public hearing before the permit was issued. Let me ask the question of you, but perhaps more properly of the Air Quality Management District, is there any such procedure that is followed with respect to this type of permit application or permit applications of this sort generally?

DUANE GEORGESON: My understanding is that we did go through the city's process, which we're quite familiar with, and received a zoning variance through the city's planning process to permit us to build the tower.

SENATOR ROBBINS: The people who lived in that neighborhood were informed of the zoning variance?

LARRY McREYNOLDS The process normally requires that. I have not researched to make sure that that was done, but the process normally requires that everybody within 300' be notified of a hearing and a public hearing be conducted.

DUANE GEORGESON Let me introduce Larry McReynolds, who is my assistant and who has been the project manager for the groundwater quality management program.

SENATOR ROBBINS: If the people were notified, were they notified that you were going to build a 45' structure, or were they notified that you were going to build a 45' structure for the purpose of spraying the contaminated groundwater into the air?

LARRY McREYNOLDS The project description request would have included an aeration tower, the description of it and the purpose of it. How detailed it was I am not sure.

SENATOR ROBBINS: You wouldn't perhaps have a copy of that notice with you or...

DUANE GEORGESON: We'd be happy to get a copy of that. Perhaps one of my staff could call the office and they could bring a copy out before the close of the meeting today.

SENATOR ROBBINS: Thank you very much. That would be appreciated.

DUANE GEORGESON: If I could just complete my remarks, and I am sure Mrs. Bremberg would like to make some comments also.

SENATOR ROBBINS: Let me ask just on this one point so that I have it covered in my mind. With the Air Quality Management District. Is it the policy of the district when this type of application is made to require notification to people within a radius of so many feet?

SANFORD WEISS: Excuse me, Senator. For the record, my name is Sanford Weiss. The answer to your question, Senator, that is not done as a routine matter because the agency or city that is carrying forward the permit by way of zoning or other permits normally carries that process out. Since we are multijurisdiction it probably would not be appropriate for us to do it.

SENATOR ROBBINS: Thank you very much. I just wanted to cover that point because it related to the interrelation of the two.

DUANE GEORGESON:: I will finish very quickly. As I mentioned, several months ago when we were satisfied that we needed to proceed with the aeration tower to permit us to contain the contamination and prevent it from spreading to other wells, we took another hard look at our proposed site, even though we had a permit from the Air Quality Management District. We made plans to move that to what we think is a superior site, a property up against the Southern Pacific railroad tracks, a property where the tower would be substantially further away from any residential property, where there would be less chance of creating a nuisance in the neighborhood, particularly at night when people are sleeping. I'd like to show you if I could a map of the new site. It turns out that a newspaper article a week or so ago placed emphasis on the fact that we had a permit at the North Hollywood pumping plant site. Fortunately, the article did mention that we were not planning to build a tower at that site and that we were hoping to get the Air Quality Management District to permit the tower at what we think is a superior location.

If I could have Mr. McReynolds bring this over to you, he could point out where the new site is and how it relates to the railroad tax and the industrial area. We also have pictures of the new site to show you that there are some other towers on the property immediately adjoining that site. I believe it will not create any aesthetic or noise or any nuisance problems of any kind.

SENATOR ROBBINS: Good, thank you.

DUANE GEORGESON: I think that completes my remarks. I would like to emphasize in closing that all of us in this room, particularly the elected officials and those of us responsible for supplying safe, reliable drinking water, have a stake. We have a need to protect our groundwater basin--probably our most important water resource. As a matter of fact, the concern about getting replacement water from Northern California certainly hasn't gone away. Someone was telling me about Herb Caen's article in the Chronicle yesterday quoting Lloyd George who visited Australia and made the comment that all Australia needed was water and a few more good people. Naturally, Herb Caen went on to say that reminded him of Los Angeles.

The attitude in Northern California to supply the legitimate water needs of Southern California is a problem that we need to work very hard at. Part of the approach to solving that problem is to make reasonable use of the resources we have. Groundwater is an important resource and we need to get on quickly with the program of dealing with the cleanup of the groundwater, the contamination, in a responsible way so that it doesn't spread and contaminate other wells. Thank you very much, Senator.

SENATOR ROBBINS: Let me ask just one question before I go on to the Air Quality District. When the site was initially selected, what process did Dept. of Water and Power use that caused them to initiate the proposal with a site that was completely surrounded by homes and apartment buildings?

DUANE GEORGESON: If I could refer you to a plate in our book...

SENATOR ROBBINS: If you could give me a copy of the book...

DUANE GEORGESON: Excuse me, I thought you had a copy a minute ago.

SENATOR ROBBINS: No, I have the Water Master Service...Which plate am I...

DUANE GEORGESON: If you look at plate 5, towards the middle of the book...

SENATOR ROBBINS: Entitled "Commercial and Industrial Development"

DUANE GEORGESON: Yes. You'll notice that through the center of that plate a fairly broad gold or yellow color. That is industrially zoned property, generally along the Southern Pacific Railroad property. Then there is a black boundary of which I think was the Health Department designation of an area of the greatest contamination. Within that you will see some large and small red dots and a few blue dots. The blue or green dots are for wells that are not contaminated with PCE and TCE. The red dots show the contamination and the size of the circle indicates the amount of the concentration. So you can see there are a large number of wells in that area. The large and the small red dot toward the lower left part of the grouping, just to the right of the two green dots, is the site of the North Hollywood Pumping Plant, the property which the Dept. of Water and Power presently owns.

Our initial studies for pilot plant operation thought that was the best location to build the tower to remove the TCE and PCE. However, looking around some more and spending a little more money on a pipeline to collect water from the other contaminated wells, we have decided to move the plant to the northerly property right up against the railroad track where you see the two larger red dots. So its the location of the contamination that dictated the location of the proposed tower.

I think Mrs. Bremberg would like to make a few comments.

GINGER BREMBERG: Yes, Senator, thank you. My name is Ginger Bremberg and other than being a councilwoman from the City of Glendale I've been a member of the League of Women Voters for about 32 years. Since 1954 I have toured the country

(a) in support of cleaning up water, testifying before Congress on the Clean Water Act and Clean Air Act and so forth. So I really am not coming from a position as an elected radical who wishes to defend her turf.

We have met with, and you will see the listing of, the Citizens Advisory Committee, conscientiously and systematically representing chambers of commerce, merchants associations, industrial associations, elected officials, as well as the League of Women Voters and AAUW and anybody else who was interested and had a caring for our fellow citizens.

As you know, it is quite easy to use catch phrases and get the media's attention, and I find it quite reprehensible that toxic tower had become a new bogeyman in any area. As women who have ever cleaned an oven, we have inhaled more toxic fumes in a millisecond than a million years of aeration will allow anybody to inhale in the air from an aeration tower for TCE and PCE. I think you people ought to be reasonable. You ought to recognize that pollution from homeowners throwing toxic waste into daily sanitary waste that will go to a landfill they are themselves contributing to the groundwater pollution, requiring that some extraordinary efforts be made to clean up the water.

We have a landfill in Glendale, and although it is not a Class I dump...

SENATOR ROBBINS: Are you referring to the City or to the landfill?

GINGER BREMBERG: Landfill. We are not classified as a Class I, we are a Class II, but you could dig down and find contamination. You know it, I know it, and so do all the citizens. It's easy to jump on a given issue, and I really think that common sense should prevail. I find that your proposed legislation is punitive; however, it certainly has given you and us a lot of headlines, which is probably always good for a politician. But I really think that common sense and technical know-how that have got to prevail. The North Hollywood merchants who are so interested in the environment are the direct leaders of the opposition to putting in sanitary sewers in North Hollywood.

I find it absolutely incredible that an industrial, commercial and heavily populated area of this density does not have sanitary sewers--they have septic tanks. And illegal or legal dumping into the ground of toxic chemicals has created this situation. I think we've got to go back a long ways further than somebody saying that an aeration tower is going to kill people--which is totally untrue--to root causes, the enforcement of existing laws that we are presently unable to enforce because of restrictions on monies to be expended. I really very strongly feel that instead of jumping on a given issue we have to go back and start from the very beginning. Who is polluting? Where are they polluting? Why isn't it being enforced? Let's start doing the common sense things that will solve the problem. We have no idea what is coming down through the ground and percolating into our groundwater. If we've only found TCE and PCE now, think what's coming behind us with more sophisticated chemicals.

We found during the investigation that businesses were digging holes in the concrete in their plants and dumping raw cyanide and strichnine--pure unadulterated poison--in the ground. That's what's scary, not the aeration tower. I really feel that you are being, shall we say, a little overreactive and not trying to work the problem through--if it is a problem--and not studying in depth and having your staff give you a complete report on the amount of distribution of TCE and PCE from aeration towers. I certainly do understand the glory of television coverage and front page headlines. I think it's wonderful that you've gotten it and given me the opportunity to get it too. but I do think that realistically, legislatively as well as politically, it is not a good thing to punish the one agency that has the health and well-being of the citizens and the capability of keeping the water clean and retaining the most vital source of water that we have. I really wish that you would back away, analyze the situation, analyze the ramifications of what you propose, and give DWP and the water departments of the cities of Glendale, Burbank, etc. the opportunity to function in the way they know the best. Thank you.

SENATOR ROBBINS: I have a built-in bias, and I admit it going in, that I represent the people who live in North Hollywood. If being overreactive to the concerns of the community is a crime, then I plead guilty.

Your perspective is as a Glendale City Councilperson. Glendale owns what percentage of the water rights in the East San Fernando Valley Basin? About 20%.

GINGER BREMBERG: We have wells that have shut down because of contamination. That's why we're involved. The Crescenta Valley Water District also has to blend the water from the Verdugo Basin because of just plain yard fertilizers and nitrates which have polluted the water an incredible amount more than is done by TCE and PCE. Just plain watering your lawn with high nitrate fertilizer contaminates groundwater.

There are a great many other things that impact groundwater than these two chemicals, which are terribly dangerous, no question about it. But one part per billion of TCE--we can find 10 parts per million of nitrates in groundwater in the Verdugo Basin where the Crescenta Valley water pumps. So we've had to blend and mix to make the water potable, or else stop using it. So, you are protecting your people. Great. I'm delighted. But I am also protecting not only the people of Glendale but everyone else in the area who is subject to the migration of pollutants through the ground into the water. It's not going to stop. You can't pass a law or even put up a sign and say pollutants stop here, do not flow into Beverly Hills. Look at your plates and see where your flow of water goes. It is trudging right along. If we don't try to do something to make that water potable, it doesn't make any difference where we live because pollutants have no political boundaries. They don't give a hoot and a hurrah whether you represent Glendale and I represent North Hollywood or if Santa Clause represents us all, because they just go right along. They don't understand politics or anything except that they are going to mix with the water.

SENATOR ROBBINS: That's exactly the point. People are concerned about what happens when you take the pollutants out of the water and you spray them into the air. Once you spray them into the air they are no more going to feel honor bound to follow that 330' maximum distance set by the Air Resources Board in the air than they are going to feel that they should stay in one place in the water. That's the serious problem that we all face. We don't want to solve the groundwater problem at the expense of creating a serious health hazard through the air.

GINGER BREMBERG: I understand that. But do you also plan to close down every dry cleaning establishment, in North Hollywood, Glendale, Burbank or anyplace else? They are now emitting a great deal more TCE and PCE than would be emitted from the aeration tower. Do you plan to shut down those businesses?

SENATOR ROBBINS: Private businesses have been subjected, I think, to a great deal more scrutiny from government and from the ARB than have been the government agencies.

GINGER BREMBERG: I agree.

SENATOR ROBBINS: There is nothing that makes the chemicals safe because there's a great big DWP on the tower that is blowing them into the air. One of the reasons why I felt a statutory provision was necessary, recognizing that whether I introduce the bill or not, this particular proposal of DWP would have fallen with its own weight in any event, even if they had not decided to change their mind. There should be some statutory protections and limitations to make sure that government entities, which have a little bit of a tendency to be friendly with each other, don't fail to provide the same degree of scrutiny that you would want if the tower that was blowing these into the air was in Glendale rather than North Hollywood.

GINGER BREMBERG: We would be willing to have one in Glendale, we have so stated. When we passed this plan I enunciated publicly for the record what the

proposals were. We discussed them and recognized things in reality. The City of Glendale Council passed that, and in a recent election on April 2 I topped the ticket on an environmental record, so I suspect that the citizens of Glendale--at least those who voted--understood where I came from.

However, if I may, if you wish to continue with this legislation, would you please also write a very strict and very enforceable program so that air contamination from all sources, that there is enough money for inspectors and people that can track, follow through and prosecute people who are deliberately poisoning our air, deliberately poisoning the groundwater, without public acknowledgment and all of the years of activity prior to even applying for a permit.

SENATOR ROBBINS: Let me assure you that the members of the East Valley Legislative Delegation in general, and Assemblyman Katz, who is the author of major toxic legislation--last year, in particular--are very committed to doing a number of things to try to protect the quality of the air we breathe.

DUANE GEORGESON: Senator, with regard to the wording of your bill, one question I had was that it would appear that your bill is worded that a private company could come onto our pumping plant property and build an aeration tower like we're proposing or I see that it only applies to municipally-owned utilities. It would appear that Southern California Edison or whoever had a problem with groundwater contamination...Southern California water companies, apparently neither industrial utilities or private companies would be precluded from building a plant within 330' of residential property. That strikes me as unfair to the citizens who happen to be in a situation of having a municipal water supply, such as the people of Los Angeles, Glendale or Burbank.

SENATOR ROBBINS: Do you feel that those people should be prohibited from deliberately blowing toxic chemicals into the air?

DUANE GEORGESON: My point is I think the public deserves to be protected from hazards, whether the hazard is being created by a public or private entity. I think the way the bill is presently worded it is clearly inequitable to focus only on utilities that are municipally owned. It seems to me that one of the efforts that the Legislature normally makes is to assure that the rules apply to everyone across-the-board and that they are not less restrictive on private utilities than they are on municipally-owned utilities.

SENATOR ROBBINS: I don't disagree with what you say. Perhaps we should work together to put those kinds of restrictions on those entities. I do have to candid at the moment in terms of our particular community here. The perceived danger on the part of the people who live in the community seems to come from the proposal of DWP, but I would have no objection to working with DWP to make some appropriate modifications to protect the people against others who would propose to blow the chemicals into the air.

DUANE GEORGESON: We would be pleased to work with your office. It's probably not an academic question because the Environmental Protection Agency has identified the San Fernando Valley as a superfund cleanup area. This means that any property owner, private, industrially owned property, is going to be in the position of having to clean up the property. They conceivably could find themselves in the position of wanting to build an aeration tower just like the city of Los Angeles. Thus, it seems that if there is going to be some restriction on the placement of these towers, some thought should be given to looking ahead to where aeration towers might well be located by some industrial concern.

SENATOR ROBBINS: We accept converts. We accept individuals who want to join and march with our small little army. We will welcome the help and assistance of the DWP.

Air Resources Board has not had an opportunity to say anything, which has probably been a wise and safe move, because my first question after you make your statement will be why did you issue the permit. Would you please make a statement on behalf of the district?

SANFORD WEISS: Again, for the record, Senator, my name is Sanford Weiss. I am Director of Engineering of the South Coast Air quality Management District.

Senator, we do have some graphs and other display materials that we would like to project on the screen for the public. However, your reporter is going to interfere with that...

SENATOR ROBBINS: That's no problem. (1) if we hesitate for a moment, which I'm going to do in a second, the reporter will be able to use that opportunity to move; (2) if you will furnish us with pictures of your slides we will include them as an appendage to the transcript of the committee testimony.

SANFORD WEISS: I have done that. And for the members of the panel there is also a copy of my presentation with the slides so you won't have to swivel around to watch.

SENATOR ROBBINS: I'm going to pause now for one minute to allow the reporter to move.

SANFORD WEISS: I appreciate the opportunity to come here and detail to you how the permit was issued for this particular facility. Before I do that, however, I might take a few minutes and tell you a little about the district, what our permit process is generally, how we handle toxic and potentially toxic materials. I think it would be useful background for the committee as they evaluate this entire operation.

SENATOR ROBBINS: I appreciate that although I would like you within a few minutes to get into the subject of this particular permit application that we are having the hearing on.

SANFORD WEISS: I would be very pleased to do that, Senator. First, let me tell the committee that the air district is concerned with the health of the citizens that make up this constituency. We are charged with implementing standards that are formulated for the air by the EPA and the Air Resources Board. We do not have any medical expertise of our own. We must rely on the expertise of other agencies.

When there are health problems involved in a particular issue we are obliged to go to the agencies such as the Dept. of Health Services for advice on how to handle those particular problems. Our chief process in controlling air pollution is through the permit process, which allows us to study individual stationary sources and evaluate them for a permit to construct before they can begin construction. If the evaluation by our engineers shows that the emissions will indeed comply with our very strict standards, as well as an evaluation with respect to toxic and potentially toxic materials, then a permit to construct will be issued. Otherwise, it will be denied.

Only then can the source go ahead and build the equipment. Once it is built and placed into operation the district again evaluates it through an engineering process, including air measurements. If that process shows that emissions are satisfactory, then we will issue a permit to operate.

The district is also concerned with the emission of toxic and potentially toxic material. I think I need to say at this particular moment that there are very few materials that have been designated as toxic. Instead, there is a long list that has been labeled as potentially toxic. Nevertheless, because of that potential label we feel we need to be concerned. So for that reason we think it only prudent that as we process permits, we do indeed look at emission sources of these materials labeled potential to evaluate the impact on the air quality. Where we believe them to be significant, we refer them to the Dept. of Health Services for an impact analysis with respect to public health.

To characterize our situation in general, and then go to the specific facility, the situation is that we're concerned with air pollution, toxic materials and potentially toxic materials. We do not have any medical expertise of our own but must rely on other agencies. What we do is evaluate the emission, look at the concentration in the air, and where we see significant concentration we will conduct a screening analysis and send any significant concentration sources to the Dept. of Health Services for their evaluation.

What I have described is essentially an interim process. It is one that the district adopted because we realize that there are a large number of substances that do have the potential for air and health impacts. Nevertheless, there were no standards established with respect to those materials.

There is another process that has just started up; one that you referred to earlier, Senator, with respect to toxic materials. Recently, the Legislature passed and the Governor signed AB 1807, which deals with toxic materials. A very large number of substances were designated as potentially toxic and for further study. That was not part of the legislation. The legislation specified a method of determining which materials were toxic, to determine ultimately what allowable concentrations might be permitted in the atmosphere, and where appropriate, what kind of control measures would be required to reduce or eliminate those excess concentrations.

As a result of AB 1807, the State Air Resources Board formulated a list of toxic or potentially toxic materials. I would like to put that on the screen. That list is toward the back of the presentation package that you have in front of you. We have highlighted perchloroethylene and trichloroethylene as materials that the Air Resources Board will be considering under AB 1807.

In our next slide we have a similar list that the district has been using for some time to evaluate its process. So the Tanner bill ultimately results in output.

SENATOR ROBBINS: Is that an alphabetical list?

SANFORD WEISS: It's an alphabetical list. Once again, as you can see, perchloroethylene and trichloroethylene also appear in our list of materials to be considered. So when we saw this particular project come down the path toward us we did indeed put it through the toxic materials list. Let me emphasize that those materials have not been designated toxic at this particular moment. They are listed as potentially toxic; but as far as we're concerned, we treat them just like toxic. We don't distinguish between the two.

While we are speaking about distinguishing, I think I ought to also say that the district does not distinguish between projects proposed by industrial sources and projects proposed by government. They come into our permit process, they are assigned by engineers who make a technical evaluation of them, and a permit is issued or not issued strictly on the merits of the case.

SENATOR ROBBINS: Let me ask one question. You say you don't distinguish between the two. When private industry comes in and makes an application, do you require them to notify the people in the area affected?

SANFORD WEISS: Once again, those projects are handled through the local jurisdiction that would handle the permit for it.

SENATOR ROBBINS: So its the local jurisdiction, its the city that's responsible for overseeing notification, correct?

SANFORD WEISS: That's correct.

SENATOR ROBBINS: So in the case of a government agency applying, they are the ones who are overseeing themselves?

SANFORD WEISS: That is possible in terms of that particular notice, but not in terms of the air pollution evaluation.

SENATOR ROBBINS: My concern is that they just might have a little bit of a tendency to put out a rather bland notice that does not list the chemicals or provide sufficient notice. One of my concerns is there does not appear to be a

situation where the community affected was cognizant of this until very recently. And that's something that concerns me both in terms of this and in the future. Please continue.

SANFORD WEISS: I would like to try to speak to the kinds of labels that we attach to the concentration of these materials in the atmosphere because it's pretty easy to move between various labels and lose track of what we are talking about. So if I might, I'd like to begin by telling you that the three most common ways of designating how much pollution is in the air...

SENATOR ROBBINS: Are we done with the slides?

SANFORD WEISS: I do have a little more material, Senator. We now have a way of pointing to the concentration of materials in the atmosphere. The most common unit is called parts per million. What it represents is that the volume of material in a million parts of clean air. For example, if one had a cubic foot of some kind of contaminant, or any material, spread uniformly through the atmosphere, one cubic foot uniformly distributed through a million cubic feet of pure air would refer to a concentration of parts per million.

Similarly, one cubic foot of material uniformly disbursed through a billion cubic feet of pure air would represent one PPB, or one part per billion.

Going down to even lower concentration, one cubic foot uniformly disbursed through a trillion cubic feet of pure air would represent one PPT, or one part per trillion.

All those units, as you can probably imagine, represent very dilute concentrations in terms of the things that we normally think about. The most common air pollutants that we find in the atmosphere are usually measured in parts per million.

SENATOR ROBBINS: In terms of this particular project, if someone resided in a second-floor apartment within 100 or 200 feet of the proposed tower, what would be the level of exposure that they would have?

SANFORD WEISS: Well, depending on the distance and the height above the ground, Senator, it would vary from about 70 parts per trillion to about 140 parts per trillion--a very, very low series of concentration. If you like, I can now go into the specific project.

SENATOR ROBBINS: I would like you to go into the specific project, yes.

SANFORD WEISS: Just to give you an idea of what we evaluated, this is a very rough sketch of what the stripping tower looks like. What it does is pump water up to the top of the tower. There is an inert packing material within the tower. The water spreads out in a very thin film over the packing. Air blows from the bottom of the tower upward and finally discharges from the top. The cleaned water discharges from the drain at the lower right into a sump. That is a very simple concept of how the thing operates.

As the water moves down through the column, any material that can vaporize into the atmosphere or into the air that's being blown up, does indeed vaporize to some extent and is transferred to the air stream and discharges from the column.

We did what was called a screening analysis when we got this application. We calculated the emissions from the tower in terms of pounds per day. We then calculated what the concentration of the materials PCE and TCE would be in the outlet from this column. Based on that we did a computerized model that screened the results to maximize all the parameters as much as possible and give a worse case result. In other words, we assumed that the wind velocity was such that it would give the worst result. We assumed that the concentration would be as high as it possible could. We assumed that there would be more of the two materials going into the water than DWP said there was. We assumed that the discharge was in such a way that it would maximize the concentrations around the tower. As the result of that process, we have the values and the screening analysis that you see up there of 15 parts per trillion of perchloroethylene (PCE) and 376 parts per trillion of TCE.

SENATOR ROBBINS: Just so I understand, these numbers are based upon, is this somebody standing on the ground, in a second-floor apartment?

SANFORD WEISS: This represents the worst case standing on the ground. I will go into the higher elevation in just a moment.

Because of our concern with the potentially toxic materials, we have worked out a process with the Department of Health Services on how to evaluate these materials in terms of should we give a permit based on the screening operation or not. DOHS, if I could refer to them in that way from now on, has limited resources. So they have given us a certain amount of screening tools to use that they would use themselves to try to differentiate between what could be a minimal risk and one that represents a problem. As I said earlier, if our screening process shows that there is going to be a problem based on those tools, we will send the material off to DOHS for their evaluation and response back as to health impact.

We did the DOHS screening process as they have given to us, and our evaluation showed that it was far, far below any risk criteria that the DOHS has passed along to us as representing a significant problem. Our evaluation showed that these concentrations that I just put on the screen are about one-tenth of what the DOHS would have considered some kind of a significant level which would require further study by them. Not that it was a problem, but rather it would have gone to them if it had been ten times more concentrated.

Since that time, because of the concerns that have been expressed publicly since the time this permit was issued, we have rerun the model. Instead of using a screening model, we used the full-scale, full-blown detailed model using actual wind velocity, using actual stack heights and looking at what happens at various heights above the ground. I would like to show you that information, if I could.

On this screen is the screening analysis that was first done for TCE. Below that is the detailed analysis for TCE. In the case of the screening analysis, as I said earlier, we just did the ground concentration. That represented the maximum concentration originally that we expect to find at ground level.

Using the more detailed model and tracking in some of the more down-to-earth data, we found that the maximum ground concentration would really be 70 parts per trillion. At ten feet above the ground it would be 97 PPT; at 20' it would be 145 PPT; and at about 30' above the ground it would be about 260 PPT. So the actual information that one used turned out to have lower results than the screening model indicated, which is what we expected, because our purpose in putting through the screening model was to maximize all the possible risk and make it as bad as it possibly could be to see if there were any problems. Again, if there were, it would have gone on to the DOHS for further evaluation.

We've also carried out this process in a great deal more detail and we mathematically describe what happens to the concentrations as you move away from the stripping column. The very top dotted line that you see represents the original screening analysis starting from the maximum value, then moving in distance away from the towers in meters (the line across the bottom). To give you an example, the original value of 376 PPT that we started out with, decreases at roughly 500 meters to about 230 PPT.

SENATOR ROBBINS: This chart only shows the impact if you are 100 meters or more away from the tower.

SANFORD WEISS: That is basically correct, yes. That's because that's where the path of the emissions touch down.

Now, as you move upward in space, the remaining lines that you see there, the solid line, the long dotted line and the line just above it, represent the concentrations at various heights above the ground. You can project backwards if you like. There is a minimum point there where obviously the tower emission

is not going to fall down to the ground. It is not going to come off and curve immediately downward and fall down at the base of the tower, which is contrary to nature.

SENATOR ROBBINS: What if you live, as some people did in this case, within 30 meters of the tower and you are located in a second-story apartment that was 20' feet high. Where would that be on your chart?

SANFORD WEISS: I believe that it would probably show that it would pass over their heads and miss them completely.

SENATOR ROBBINS: So anyone within 100 meters would be missed completely?

SANFORD WEISS: Excuse me just a moment while I talk to the modeler about this.

I am told that we can't project downward toward 30 meters. So the result would be, for example, at a height of 30' where we show about 280 PPT, we would project backward and find essentially the same level. If we move downward to various other heights, say at ground level...there is a place in there that as you move closer to the source it misses you completely. At about 30 meters we perhaps have 20 PPT. So it would decrease. There are impacts at 30 meters for somebody living in a house--if there were one there--it would be under 100 PPT.

SENATOR ROBBINS: Let me ask the modeler--I've never met a modeler before--is there some point that would be the area of maximum danger? If you were 40 meters away from the tower in an apartment that was 30-35 feet high, would that be a maximum impact area? There has to be some point of maximum impact area.

JOE CASSMASSI: My name is Joe Cassmassi and I am the Senior Meteorologist with the South Coast Air Management District.

As indicated by the table, the maximum ground level concentration would occur roughly 300 meters from the source. What is actually happening when you model a source like this is that you find the emissions, because they are coming out of the stack with a certain velocity, they become elevated or lifted. It takes time for the concentration within this plume to actually touch down.

If you are looking at the problem from the ground level approach, then you find that the plume touches down further away than it would if you were say in a second story window. The curves there indicate that for ground level you find that the maximum occurs roughly at 300 meters. At ten feet it is also 300 meters. If you were residing 20' in elevation it is now approaching the source and the maximum is occurring at roughly 200 meters. If you are at 30 feet it approaches the source at roughly 100 meters. Obviously, it can only approach the source to the actual height of the source. If you are standing right on top of the source, the maximum height would right at the outlet of the.....

GERI SPEILER: I have a question. I'm not an engineer, but if I understand this correctly, you say that it comes out, it doesn't drop down immediately, it has to spread. Then if you live further away its going to spread down over there.

JOE CASSMASSI: Yes, but one has to conceivably think of, when it spreads, its mixing in air and diluting itself very significantly.

SANFORD WEISS: To try to put it into something that perhaps you can see, if you will remember what you have seen looking at steam coming out of a pipe that you often see around factories, you will see that it starts out very close to the pipe, moves straight up, looks very dense as it comes out, bends over gradually depending on the wind velocity, and starts spreading out. Now, as it spreads out it is starting to dilute because it is turbulating and mixing with the air. Finally, as it moves further and further away, it is virtually invisible because it is has mixed so much air in with those steam particles that you saw originally that it is invisible. And it is still traveling downwind process away from you.

I believe we are done with the overhead unless there is something you would like to go back to, Senator.

SENATOR ROBBINS: No, I think we have all grasped that...

SANFORD WEISS: Then if I could just wind up for a second. Looking at the original screening result, which was the top line that we showed you on our screen a moment ago, you can see that the screening model shows a result that was far, far larger than the more rigorous modeling approach that we used in the second go-around. Yet, the screening values were still so low, that they were far below the DOHS criteria for any significance in terms of toxicity.

Since the time that we have done this work, we verified with DOHS, who have reviewed our calculations and what we've done, and they too agree that this particular source could not cause any significant health impact. Based on that information, Senator, the district did indeed issue a permit to construct for this particular tower.

SENATOR ROBBINS: I have been promising the representatives of our elected officials who are here and who have been patient the opportunity to either ask questions or make statements. I would like now to fulfill my promise. The mikes are very sensitive, so you don't have to pull it up like I do.

GERI SPIELER: I'm representing Assemblyman Richard Katz and I have a statement he wrote that I would like to read to you.

First of all, I want to thank Senator Alan Robbins for bringing attention to the water tower location and for allowing me to speak today. The quality of life in our community is being seriously threatened by the contamination of our drinking water by toxic chemicals. I have been meeting with the Dept. of Water and Power and EPA officials regarding this problem and possible solutions. Our solutions, however, should not include placing an air stripping tower that spews out carcinogenic toxins in the middle of a residential community.

After learning of this I met with them again and two weeks ago was assured it would be moved. It is important for the DWP to start talking with the people in the community and include them in the decision-making process. The problems are well known to us all, and the timing is critical if we are going to halt

further contamination. We must adopt a strategy that will protect our community and our health.

Freedom from groundwater contamination has always been a priority with me. I have been meeting with EPA and health officials repeatedly regarding ways to safeguard our water. I have stressed the importance of locating the sources of contamination and developing the technology for cleaning it up.

Last year Governor Deukmejian signed legislation which I authored to make California's drinking water protection laws the toughest in the nation. My bill closed down all toxic pits within one-half mile of potential drinking water sources and tightened current toxic regulatory practices. We need to enforce the law. This is our air and our water we are talking about. We must work together as a community if we are to be successful, otherwise, any proposed solution is doomed to failure.

Prevention is what we are after. The Congressional budget office estimates the cost of prevention is one-tenth that of cleanup operations. If we act now to prevent further toxic contamination, we as taxpayers won't have to foot the multimillion dollar bill for the cleanup of toxic accidents.

SENATOR ROBBINS: Does Congressman Berman's office or Senator Rosenthal's wish to make a statement?

BOB MORRALES (Senator Torres office): The Senator did not provide me with a statement. I do have a question that has come up while I have been listening. While reading through the materials here and listening to the testimony, the references to the toxicity of TCE and PCE seem to be--referring back to the material here--an exposure of 83 minutes or exposure in a short period of time. What I am wondering is, even at these low concentrations, is there information that addresses the effect on an individual of a period say of five years at these measurements?

SANFORD WEISS: Thank you, that's a good question. I apologize for not making that clear. The screening material that we get from DOHS is based on a lifetime exposure of 70 years, 24 hours a day, 7 days a week, 365 days a year, at the maximum level that we get through this computerized process. So it is a long term exposure, not just a few hours.

CURTIS COLEMAN: My name is Curtis Coleman, I am the District Counsel for the Air Quality Management District. I don't know if it has been mentioned yet, but the DOHS criteria for whether remedial action should be taken or not is if there is an expectancy of an increased cancer rate of one in a million. So if there is an increase of one person in a million contracting cancer in a population of a million, based on this study, that is what they consider as significant and warranting further action.

SENATOR ROBBINS: Let me thank the elected officials and the representatives of the government agencies for being here. I did not intend to place you upon a barbecue spit, but I did feel that the people in the community had the right to see the process that went on carefully examined.

I am pleased that the Dept. of Water and Power has abandoned the proposed site at roughly Van Owen and Lankershim. I think it would have been a mistake if they had gone ahead on that.

One of the things that concerns me perhaps the most in all of this that I hear and listen to is how little the people were to be affected. Had a meaningful opportunity to know what was being talked about through the entire decision-making process--that process is over now, the site has been abandoned--but throughout that process, the people who were going to be breathing in the chemicals had no real way of knowing what it was that was proposed for them because the agency that was giving the notice, which was the city, was the same agency that was supervising the giving of the notice. And it sounds like--I don't want to prejudge it, they said they would get me a copy of

the notice before the end of the hearing, and I presume that since no copy has come forward that they have not been able to do that. I'll wait for a moment to see if...

DUANE GEORGESON: Senator, we have been unable to get a copy. We are checking with City Planning and will bring a copy to your office this afternoon.

SENATOR ROBBINS: I would appreciate that. It seems that one thing that is evident is that the people who are going to live in the area have the right to notice and knowledge before the decision is made. The second thing that would seem to be evident is to just avoid even the appearance of irregularity the city should not supervise itself in terms of the distribution of the notice. That seems to be a built-in problem in the system. Either the Air Management District of some other entity should have responsibility when the applicant is a government agency for reviewing the kind of notice that is given to the people who live in the community.

I will have to be honest with you. I did not learn about this in any form until recently. I was surprised it had gone that far without either myself or the other representatives at the state level having that knowledge until recently. I would hope that we could proceed with this legislation and provide for some adequate safeguards for the people, both in terms of the proposal in North Hollywood as well as any other future proposals, because implicit in what was being said was that this is not the only aeration tower that was to be proposed before all of the groundwater problems in North Hollywood and elsewhere are resolved.

So on that note, I also thank the representatives of the community that have been present. I will ask the representatives of government agencies to stay around for a couple of minutes. If anyone has a question to ask them individually I am sure that they would be pleased to respond.

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Los Angeles Department of Water and Power
AERATION TOWER
Pilot Project

Project Purpose

The Los Angeles Department of Water and Power has proposed the construction of an aeration tower as part of a pilot project to remove contaminants, primarily trichloroethylene (TCE) and perchloroethylene (PCE), from San Fernando Valley groundwater. This effort will help to reduce further spreading of contaminants in the San Fernando Valley groundwater basin.

Project Description

Project plans call for the construction of a 45-foot aeration tower, along with the drilling of several shallow wells to supply 2,000 gallons per minute (gpm) to the tower. Pumping units and pipeline from the wells to the tower also will be installed.

Process

Groundwater containing low levels of TCE and PCE will be pumped from approximately 300 feet underground to a collection system piping the water to the aeration tower.

The water will be piped to the top of the tower and as the water falls through the tower into a holding sump, the contaminants will separate naturally and dissipate into the air.

Location

The proposed aeration tower will be located in the rear of a DWP storage yard at 11875 Vose St., North Hollywood. The site is in an industrial area. The closest residential zone is more than 200 yards to the south of the site.

Permits

On May 1, 1984, the DWP applied for a permit from the Air Quality Management District (AQMD) based upon siting of the tower at the DWP's North Hollywood Pumping Station, 11850 Vanowen St., North Hollywood.

Initially, the North Hollywood Pumping Station site appeared to be the best location. An in-depth study of the treatment process, the site and the impact of the tower on the surrounding area was conducted by the AQMD. On Sept. 9, 1984, the AQMD issued a permit for the pilot project after it was determined that the tower operation would not pose any health hazard.

However, the proposed tower site was changed to a new location in an industrial area for aesthetic reasons.

Cost

Purchase and installation of the aeration tower will cost approximately \$300,000. The total project cost will be about \$1 million.



STATEMENT OF
DUANE L. GEORGESON
ASSISTANT GENERAL MANAGER - WATER
LOS ANGELES DEPARTMENT OF WATER AND POWER

BEFORE THE
STATE SENATE HEARING ON
SAN FERNANDO GROUNDWATER CONTAMINATION ISSUES
ON APRIL 19, 1985
HELD IN
NORTH HOLLYWOOD, CALIFORNIA

I am the Assistant General Manager in charge of the Water System of the Los Angeles Department of Water and Power (DWP). I appreciate this committee's interest in the San Fernando Valley Basin groundwater contamination problem.

I welcome the opportunity to discuss this issue. I will briefly describe:

1. The cooperative efforts of various city, county, and state agencies to investigate and solve our groundwater contamination problem;
2. The need for treatment to contain the contamination and the treatment alternatives explored; and
3. The selection of air stripping as the treatment of choice for a pilot study.

Background on City Water Sources

As many of you are aware, most of our water (80%) originates as snowmelt on the Eastern Sierra and is transported to Los Angeles via the Los Angeles Aqueduct.

We purchase approximately 5 percent of our water from the Metropolitan Water District of Southern California (MWD), which obtains its water from the Colorado River and from the State Water Project.

Well water from the San Fernando Valley, which comprises the remaining 15 percent of the City's supply, normally provides water for 500,000 people. In times of water shortages the groundwater storage can be drawn upon to supply 1 million people. This is a critical source not only for the City of Los Angeles, but also for the Cities of Burbank, Glendale and San Fernando. It will become even more critical after 1985, when MWD loses a substantial portion of its allocation of Colorado River water to Arizona.

All of these water sources are of high quality. Los Angeles tap water consistently meets all State and Federal health standards, with the exception of turbidity, which does not pose a health problem in our system. We continually monitor our water to ensure that it is safe.

Groundwater Quality Management Plan

In 1980, trace levels of industrial solvents (TCE and PCE) were discovered in some San Fernando Valley wells. This potential problem underwent investigation by the Los Angeles Department of Water and Power in close cooperation with the Cities of Burbank, Glendale, and San Fernando and the Southern California Association of Governments (SCAG). This two-year study was jointly funded by the Department of Water and Power and the EPA. As a result of this investigation, a groundwater quality management plan for the San Fernando Basin was developed to prevent further contamination and to clean up existing contaminated wells.

Two Advisory Committees were formed to ensure that the concerns of all interested parties would be incorporated into the final plan.

- o The Citizens' Advisory Committee (CAC) was composed of elected representatives from local governments, public interest groups, economic interest groups, and private citizens. A major function of the CAC was to obtain input from all segments of the general public.
- o The Technical Advisory Committee (TAC) was composed of representatives from the local and regional agencies that play key roles in regulating activities that contribute to groundwater contamination.

The findings, conclusions, and recommendations of the two-year investigation are incorporated in the "Groundwater Quality Management Plan - San Fernando Valley Basin" (a copy of the executive summary of this report is attached).

The plan includes eight specific recommendations to prevent future groundwater contamination and to clean up existing contamination.

Implementation of the recommendations of the basin plan is in progress with the cooperation of all City departments, governmental agencies, and regulatory authorities that have an interest in the basin.

Need for Treatment

The study recognized the possibility that the contaminated water could spread to other wells if it were not contained. To check further degradation of our groundwater supply, we began to investigate the effectiveness of removing TCE and PCE from a contaminated well field, thereby preventing the spread of that contamination to other wells.

Exploration of Treatment Alternatives

We explored all available options. The alternatives are limited - U.S. EPA has proposed only two methods for organics removal: granular activated carbon (GAC) filtration and air stripping. We are also investigating a novel treatment method which utilizes ultraviolet light and ozone (UV-ozone).

Granular Activated Carbon (GAC)

We investigated GAC and found the following problems:

- o Once the contaminants are adsorbed on the GAC, the carbon must be either "reactivated" or discarded. At this point, the spent GAC is considered to be a hazardous material with all of the attendant disposal problems.
- o The GAC treatment process has operating and maintenance costs which are approximately four times higher than the air stripping process.

Air Stripping

The other available method proposed by the EPA is air stripping (aeration).

Air stripping operates on the principle that organic compounds such as the ones found in our groundwater are volatile. In other words, they readily evaporate when exposed to the air.

The air stripping process involves pumping the well water to the top of an aeration tower and allowing it to descend into the tower, while at the same time blowing air up through the tower. The contaminants are stripped from the water by the air, and the air is discharged via the tower stack to the atmosphere, where it is diluted to concentrations hundreds of times lower than concentrations in the well water. At these concentrations, these compounds pose no health hazard.

This is a "tried and true" treatment method, and there are a number of air stripping towers operating - safely and effectively - in Southern California and elsewhere.

Ultraviolet-Ozone Treatment

As mentioned above, in addition to evaluating the EPA-proposed methods, we are currently investigating a novel treatment process for removing organic contaminants from water.

The process involves the exposure of organic contaminants (e.g., TCE) to ozone in the presence of ultraviolet light. This results in the decomposition of the TCE and PCE into harmless products. This process has the distinct advantage of not creating any contaminated emissions to the atmosphere. Furthermore, it does not produce hazardous materials like the GAC method does.

A pilot scale test of the ultraviolet-ozone method on SFVB water was performed in February 1985. Unfortunately, the removal efficiency was poor and demonstrated the need for additional basic research. We are currently funding this research. The project is under the direction of Dr. Bill Glaze, Director of the Environmental Science program at UCLA.

Selection of Treatment and Application for Permit

After reviewing the two EPA-proposed alternatives, we decided that air stripping was the best option. (At this point in time, the novel ultraviolet-ozone process had not yet been called to our attention.)

We applied for a permit to test the air stripping method from the Air Quality Management District (AQMD) on May 1, 1984. AQMD conducted an in-depth investigation of the treatment proposed, the site, and the impact of the proposed tower on the air quality in the surrounding neighborhood. They determined that this pilot investigation would not degrade the air quality in the area, nor pose a health hazard. The permit was issued on September 9, 1984.

Delay in Tower Investigation Pending Results of UV-Ozone Study

We did not immediately commence construction of the pilot facility because we had begun investigating the UV-ozone method.

When it appeared that this investigation might be a long-term one, with major modifications needed to perfect the technique, we decided to proceed with the air stripper test installation to expedite the containment of the chemical contaminants.

Siting Change

The site for which we were granted a permit to test the aeration system initially appeared to be our best alternative.

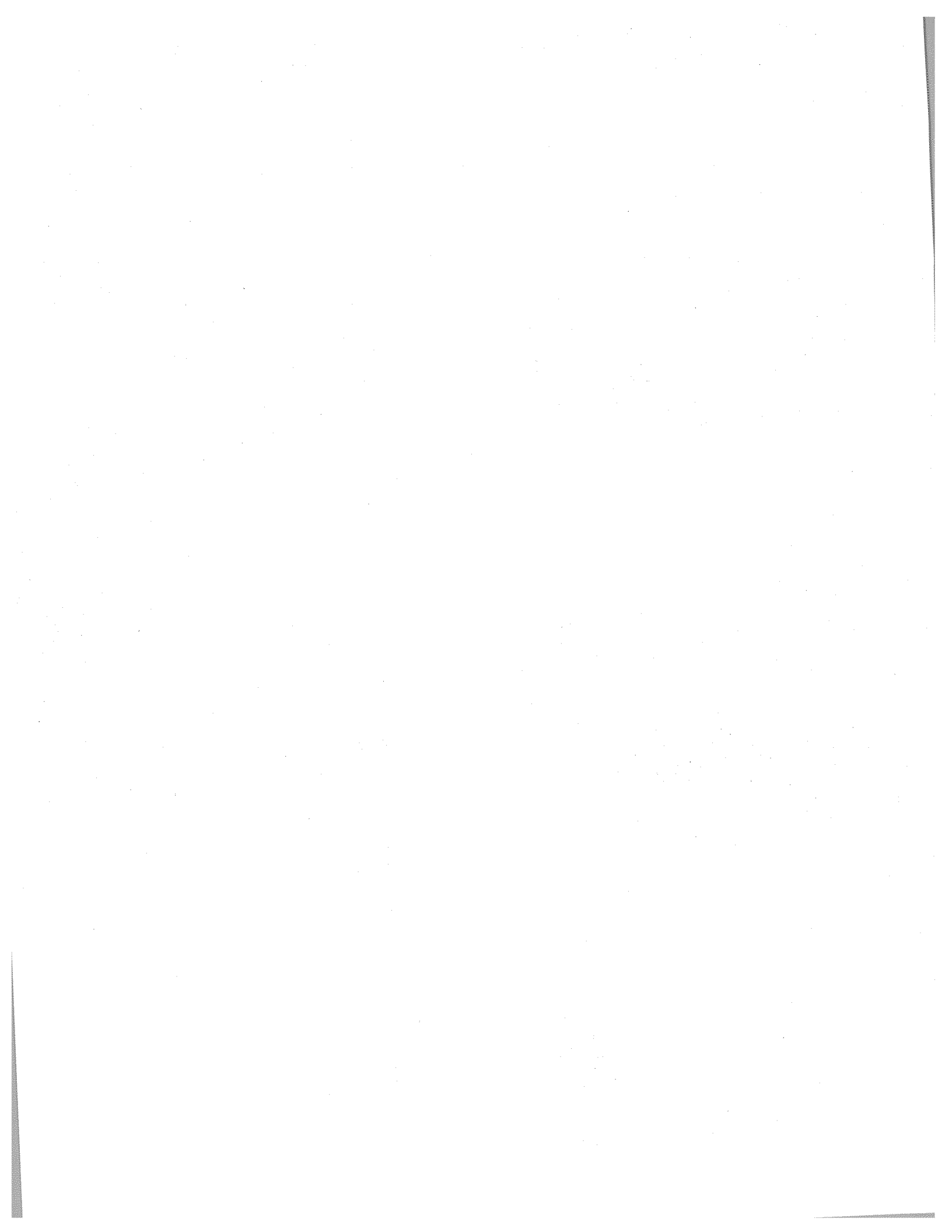
However, because the tower may at times operate 24 hours a day, we became concerned that even the low level of noise might disturb the residents closest to the tower. We also were concerned about the appearance - the tower is about 40 feet high.

Because of these concerns, we decided to conduct the test at an alternate location. At this location, the tower will be far enough from dwellings that residents will not be disturbed by late night operations.

This decision was based on aesthetic considerations only, not on health considerations. It was made prior to the negative publicity we have recently received.

Conclusion

In conclusion, we believe that it is essential to proceed with the cleanup of the San Fernando Valley groundwater basin. Thorough investigation has determined that air stripping is, at this stage, the best treatment option for a pilot study. We are convinced that the proposed aeration tower operation is safe.



EXECUTIVE SUMMARY

In early 1980, the industrial chemicals trichloroethylene (TCE) and perchloroethylene (PCE), were discovered in the groundwater of the San Fernando Valley Basin (SFVB) which provides drinking water for the Cities of Los Angeles, Burbank, Glendale and San Fernando. TCE, the major contaminant found, was detected in approximately one-fourth of the groundwater wells tested in the SFVB, at concentrations in excess of the current level recommended for drinking water by the California State Department of Health Services (DOHS).

In response to these findings, the Los Angeles Department of Water and Power, and the Southern California Association of Governments (SCAG) received EPA funds to embark upon a two-year study which began in July, 1981. The scope of the study was to determine the extent and severity of the contamination and to develop strategies to control the groundwater contamination problem. The specific objective of the study was to develop a basin-wide groundwater quality management plan including recommendations for implementing strategies to ensure the future protection and safe use of the groundwater basin.

Efforts were focused primarily on defining the extent of the contamination, investigating current potential sources of contamination and developing this plan to protect the basin. Extensive investigations to determine past activities that might have caused the contamination problem were not made because many expensive groundwater monitoring wells would have been required to trace the contaminants to their origins and such information would have been of little help in the formulation of an overall plan to protect the basin. It is apparent from the contamination pattern that there were many sources that caused the contamination currently found in a number of the wells. The approach of the investigation, therefore, was to examine all potential sources of groundwater contamination and to evaluate current industrial practices for the handling, storage and disposal of hazardous materials.

The investigation of potential sources of groundwater contamination included: (1) commercial and industrial establishments; (2) accidental spills and unintentional releases of hazardous materials; (3) dry weather urban drainage; (4) landfills; and (5) other commercial waste sources which included private disposal systems, sewer exfiltration and permitted industrial waste discharges. Evidence of the presence or use of industrial contaminants was found for all of the sources investigated. Those sources within the sensitive groundwater areas surrounding the well fields where soil permeabilities and groundwater velocities are relatively high, were of particular concern because of the high potential for groundwater contamination.

Although no distinction could be made between past and current groundwater contamination, the findings of the study indicate that most of the contaminants currently reaching the wells probably resulted from past industrial practices before hazardous material classifications and regulations became established. A practical way to protect the groundwater is to improve the methods of use, handling, storage and disposal of hazardous materials by industry. Remedial action to protect the sensitive groundwater areas from additional contamination is the most immediate concern since the groundwater basin is a vital source of water supply for the Cities of Los Angeles, Burbank, Glendale and San Fernando.

The eight primary recommendations of the study, presented on the following page, are based on a twofold approach for the control of groundwater contamination in the SFVB. Recommendations 1 through 6 involve the prevention of future contamination of the groundwater basin. These recommendations provide for a comprehensive management plan for the handling, storage and disposal of hazardous materials. Recommendations 7 and 8 involve remedial actions for the current contamination problem and recommend engineering strategies to allow full use of the groundwater for drinking.

The degree of implementation for Recommendations 7 and 8 will depend upon water quality regulations adopted for the contaminants. These recommendations are based on the State DOHS interim action levels for TCE and PCE. Proposed EPA contaminant limits are expected to be published in late 1983 but will not be implemented until after an extensive public review process that will take about two years. The State DOHS must adopt contaminant limits for drinking water that are equal to or more stringent than those adopted by the EPA. Currently, the State DOHS interim action levels are at the lower limits of the EPA's Suggested No Adverse Response Levels (SNARL) and represent a conservative estimate of the eventual standard.

GROUNDWATER QUALITY MANAGEMENT PLAN

<u>Recommendations</u>	<u>Proposed Implementing Agencies</u>
1. Public Education Program	Water Agencies, Industrial Waste Control Sections, State and County DOHS
2. Regulation of Private Disposal Systems	Industrial Waste Control Sections, Engineering Departments, Building Departments
3. Augmented Enforcement Program	Regional Water Quality Control Board (RWQCB), State and County DOHS, Industrial Waste Control Sections
4. Regulation of Storage Tanks, Sumps and Pipelines	RWQCB, State and County DOHS, Fire Departments, Building Departments
5. Small-Quantity Generator Hazardous Waste Disposal Program	SCAG, Sanitation Departments
6. Regulation of Landfills	RWQCB, Water Agencies, Sanitation Departments
7. Groundwater Monitoring Program	Water Agencies
8. Aquifer Management and Groundwater Treatment Program	Water Agencies



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PRESENTATION

ON

PROPOSED WATER STRIPPING TOWER OF
DEPARTMENT OF WATER AND POWER
NORTH HOLLYWOOD, CALIFORNIA

PRESENTED TO:

SENATE SELECT COMMITTEE ON
GOVERNMENTAL EFFICIENCY

APRIL 19, 1985



1. DISTRICT PURPOSE AND MAJOR FUNCTIONS

The major goal of the South Coast Air Quality Management District is to achieve air quality standards established by the California Air Resources Board and the United States Environmental Protection Agency. Those air standards have been promulgated in order to protect the health and safety of the state and country's citizens. The District has about 6,600 square miles and has 10 million citizens. The District's activities are governed by a Board of 14 persons who are either elected officials or appointees from various segments of government. The District does not have any medical expertise, but instead relies on standards promulgated by agencies legally empowered to adopt such standards. Where medical guidance is required with respect to health matters, the District relies on the skills of agencies who are expert in the field of public health, such as the State Department of Health Services. The District's primary area of responsibility is the control of air pollution from stationary sources. Mobile sources are within the purview of the California Air Resources Board. The District's primary responsibilities are to issue permits for stationary sources, enforce the permit provisions, conduct air monitoring in order to evaluate progress to clean air, and conduct planning operations in order to evaluate methods by which the air standards can be achieved and

1. DISTRICT PURPOSE AND MAJOR FUNCTIONS (Continued)

to enact rules limiting the air pollution from stationary sources.

2. METHOD OF ISSUING PERMITS

In carrying out its responsibilities with respect to controlling air pollution from stationary sources, the District relies heavily on its permit system. Items of equipment which are capable of emitting air pollution, or capable of controlling pollution, are required by state law to first obtain a permit to construct from the District. Under that system, source operators submit data and engineering information to the District's engineers who then evaluate the equipment's operations with respect to conformity with the District's Rules and Regulations. Those evaluations consider the District's emission rules as well as the air quality impacts. In addition, the engineers evaluate emissions of any materials which are considered to be toxic, or potentially toxic, before a permit to construct is issued. Since most substances are still under evaluation for toxicity, there are no air standards for most materials under the present situation. For that reason, the District relies on its nuisance rule as the basis for controlling potentially toxic emissions where appropriate.

As previously mentioned, the District's engineers evaluate stationary sources for a permit to construct by carrying out engineering evaluations and studies of the operation of those stationary sources. If the evaluation shows that the emissions of the specific

2. METHOD OF ISSUING PERMITS (Continued)

sources will conform to the District's emission requirements, then a permit to construct will be issued to the company. Once the permit to construct is issued, the applicant may build the equipment and the District engineers then evaluate the equipment in actual operation in order to verify that the actual operation complies with the District's emission requirements. If the evaluation shows that the operation indeed is as originally specified, then a permit to operate is issued to the company.

In summary, then, the District's permit system is the heart of its air pollution control operations and operates in two distinct phases--a permit to construct and a permit to operate--which are granted only after thorough engineering evaluations are carried out by the District's engineers with respect to common pollutants and toxic, and potentially toxic, materials.

3. TOXICS

Relatively few substances have been identified as toxic by either the United States Environmental Protection Agency or the California Air Resources Board. A number of other substances have been identified as potentially toxic and are the subject of considerable study by health agencies. Because most substances are still tentatively listed as potentially hazardous, the District believes that it is prudent to evaluate the impacts of such materials when requests for permits are made of the District. At this time, there are no specific requirements for such substances. Accordingly, the District uses its nuisance rule as the basis for its actions with respect to these potentially toxic materials. Under the District's procedures, the emissions of such substances are evaluated and then the impacts on surrounding air quality are further evaluated through the use of computerized models. If experience has shown relatively small impacts from similar equipment, a screening model is run to maximize impacts and evaluate "worst case" situations. If those results are significant, using methods from DOHS, a more detailed model is run. When the modeling results show that there are substantial impacts, the District requests the Department of Health Services to evaluate any potential health problems and suggest if additional actions are required. If the modeling results, or the results from the Department of Health Services'

3. TOXICS (Continued)

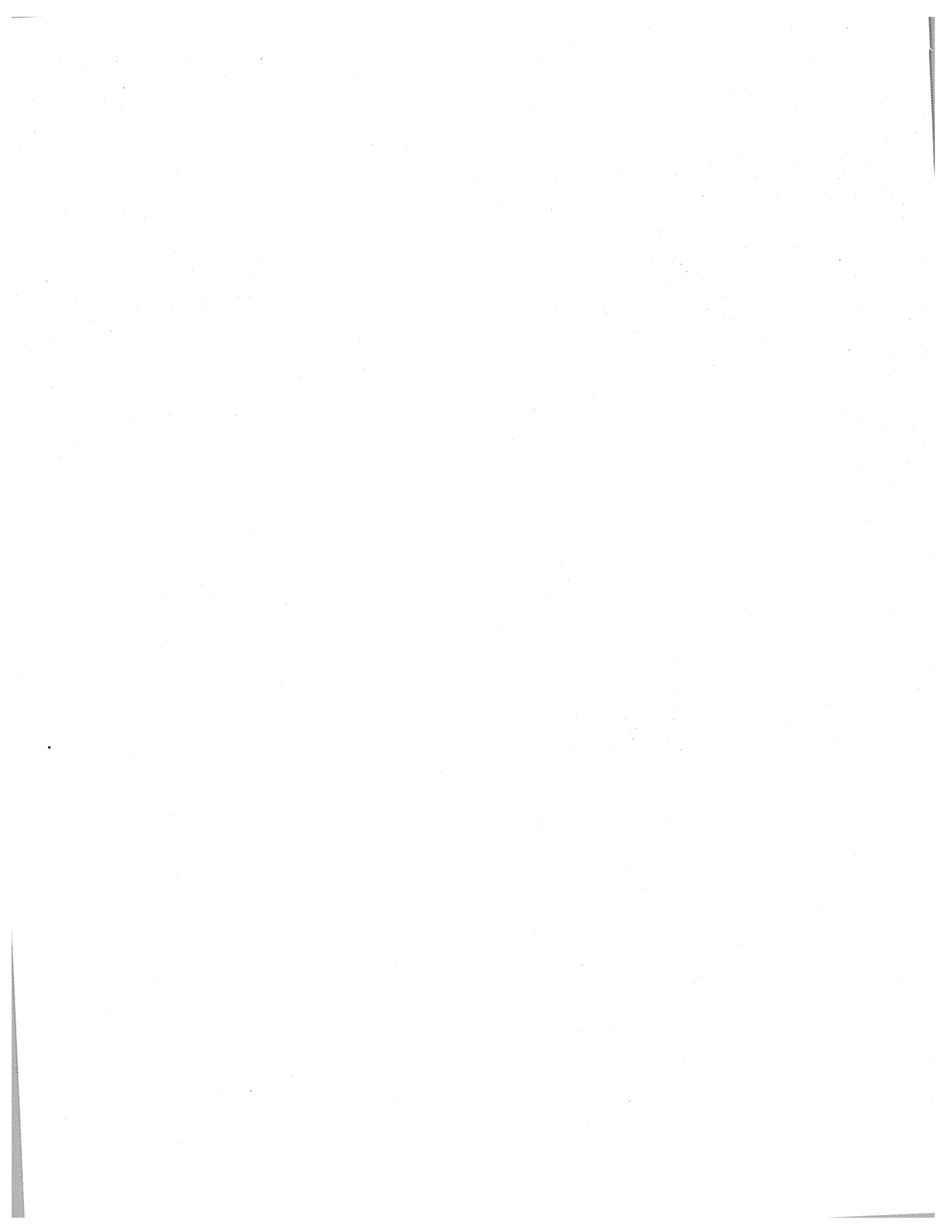
evaluation, show no significant health impacts, then the District will grant a permit to construct. On the other hand, if the Department of Health Services' results indicate significant impacts, then the District will require additional remedial action in order to abate any potential health impacts.

In summary, then, in evaluating potentially toxic emissions, the District uses a screening model and then evaluates impacts using a Department of Health Services recommended process. If significant results are noted, the scientists at the Department of Health Services are consulted and additional remedial actions required in the event that the Department of Health Services' study shows health problems.

4. TANNER BILL

In September, 1983, the Legislature enacted, and the Governor signed, AB 1807 (Tanner, Stats). This Bill provides specific legislative direction to the state and local air pollution control districts in the identification and control of toxic air contaminants. Procedures were set up to define a toxic compound; identify various chemical compounds as toxic; determine the threshold level below which no adverse health impacts are anticipated, for each toxic compound; and provide for control of the toxic. The guidelines for control provide that a toxic source be controlled "sufficiently including a reasonable margin of safety so that the source will not result in, or contribute to, ambient levels at, or in excess of, the threshold exposure." For toxic air contaminants for which there is no demonstrable safe level, emissions are to be reduced through the use of toxics Best Available Control Technology as defined in the Act.

In addition, the Act directs the Board to prepare a report on the need for, and degree of, regulation for each compound found to be a toxic air contaminant. Within 120 days after the Board adopts a toxics control measure, the local districts must adopt equally, or more stringent, regulations than adopted by the Board.



5. UNITS OF MEASUREMENT

In order to understand the emissions of materials from the project, it is necessary to also understand the units of measurement in air pollution work. Because concentrations of air pollutants are in relatively small amounts, it is necessary to express the amount of air pollution in the atmosphere in terms of millions, billions, and trillions. The most common term in air pollution work is "parts per million." This term refers to the concentration in units of volume per million units of volume of air. For example, the concentration may have originally been calculated in terms of ounces of volume per million ounces of air by volume. The term "one part per million" could refer to one ounce of air pollution per million ounces of air. Such units of measure are valid, regardless of the basic units of measure used, as long as such units are consistent. The one part per million used as an example above could just as easily refer to one gallon of volume of pollution in one million gallons of clean air, or one cubic foot of pollution in one million cubic feet of air. Similarly, concentration units of parts per billion refer to concentrations in a billion volumes of air, and parts per trillion refer to concentrations in a trillion volumes of air. As an example of using such units, air pollution levels are usually expressed in terms of tenths of a part per million. The Environmental

5. UNITS OF MEASUREMENT (Continued)

Protection Agency has designated an ozone standard of
0.12 parts per million.

6. PROJECT DESCRIPTION

The materials in question here are trichloroethylene (TCE) and perchloroethylene (PCE). TCE was once used as a degreasing solvent, but is so reactive in the air that the District has severely controlled its use. Perchloroethylene is a degreasing solvent and is used in most dry cleaners.

As has been previously described by the Department of Water and Power, the project consists of a tower packed with materials used to provide surface areas upon which the contaminated water forms a thin film. Air is blown into the bottom of the tower and as the liquid moves down through the column, the upward rising air removes any materials capable of vaporizing in the unit. In evaluating the emissions from this process, the District's engineers used the data and information submitted with the application. The calculations indicated that the emissions would be about one-half pound per day of perchloroethylene (PCE) and about seven pounds per day of trichloroethylene (TCE). It must be emphasized that those two materials are identified as potentially toxic and that no ambient air standards exist with respect allowed concentrations. Nevertheless, the District evaluated, through a screening model, the potential concentrations of those materials in the atmosphere. The information clearly showed that the concentrations were in the parts per

6. PROJECT DESCRIPTION (Continued)

trillion range. District personnel then used methods given to us by the Department of Health Services to evaluate any excess risk. That evaluation showed that the impacts were below those DOHS significance criteria. The screening process is designed to maximize potential impacts and, thus, reveal whether additional study in detail, and by health professionals, is required. A subsequent study, using more detailed criteria, has shown that the concentration impacts are even less than levels indicated in the original screening study. In addition, while the original study maximized concentrations, the District also has evaluated the impacts on persons at higher elevations, rather than at ground level. That information shows that there is still no excess health risk associated with the emissions from this unit.

We also understand that because of the concerns expressed by citizens in the area, the Department of Water and Power has decided to move this project to another location. The District will require a new application and will reevaluate the emissions and air quality impacts taking into account the surrounding area when a new site has been identified.

7. MODELING RESULTS

The original screening model showed that the maximum ground level concentration in the vicinity of the stripping column would be 15 parts per trillion for PCE. The model also showed a maximum ground level concentration of 376 parts per trillion of TCE. Those maximum concentrations were maximum case conditions in that there was a higher concentration of materials used for the inlet to the stripper; a high population density; and an assumption that the material discharged from the stripper would impact equally around the stripper discharge. Even so, using the DOHS procedure for the evaluation of the health impacts, and using the concentrations previously given, the DOHS procedure showed that the excess health risk was well below that specified by DOHS.

In view of the concerns expressed with respect to the original screening process, the District has rerun the models using more detailed procedures and evaluated the impacts at several elevations downwind of the stripper. The more detailed model shows results that are substantially less than that of the screening model and continues to result in low health risk factors that are below the levels specified by DOHS. In particular, the maximum ground level concentrations were 70 parts per trillion, the maximum 10 foot elevation concentration was 97 parts per trillion, and the maximum

7. MODELING RESULTS (Continued)

20 foot elevation concentration was 145 parts per trillion.

It is thus obvious that the screening model performs its expected function of showing maximum case results and that the health risks associated with that screening model were so low as to specify that the District approve the permit to construct for this facility.

8. CONCLUSIONS

We firmly believe that the District's permit process and engineering studies were appropriate to evaluate the air pollution from this project. The District's program uses criteria approved by the Department of Health Services to evaluate the impacts of air pollution on human health. It is particularly important to note that the materials discharged from this project have not been designated as toxic, and, therefore, no air quality standards have been developed. The District's initial worst case evaluation clearly showed that the concentrations from this project complied with the DOHS criteria for excess health risk. More detailed studies showed that the risk is even lower. Any impartial observer must conclude that the District acted prudently and with consideration of the public health.

TOXIC COMPOUNDS
TO BE
CONSIDERED UNDER AB 1807
(TANNER BILL)

Level 1A

Asbestos, Benzene, Cadmium, Carbon Tetrachloride, Chloroform, Chromium, Ethylene Dibromide, Ethylene Dichloride, Ethylene Oxide, Formaldehyde, Inorganic Arsenic, Nickel, PAH, Polychlorinated Biphenyls, PCD-Dioxins, Vinyl Chloride

Level 1B

Inorganic Lead, Manganese, Methyl Chloroform, Methylene Chloride, Perchloroethylene, Radionuclides, Trichloroethylene

Level 2

Acetaldehyde, Acrolein, Acrylonitrile, Allyl Chloride, Benzyl Chloride, Beryllium, Chlorobenzene, Chloroprene, Cresol, p-Dichlorobenzene, Dialkyl Nitrosamines, 1,4-Dioxane, Epichlorohydrin, Hexachlorocyclopentadiene, Maleic Anhydride, Methyl Bromide, Mercury, Nitrobenzene, Nitrosomorpholine, Phenol and Chlorinated Phenols, Phosgene, Propylene Oxide, Vinylidene Chloride, Xylene.

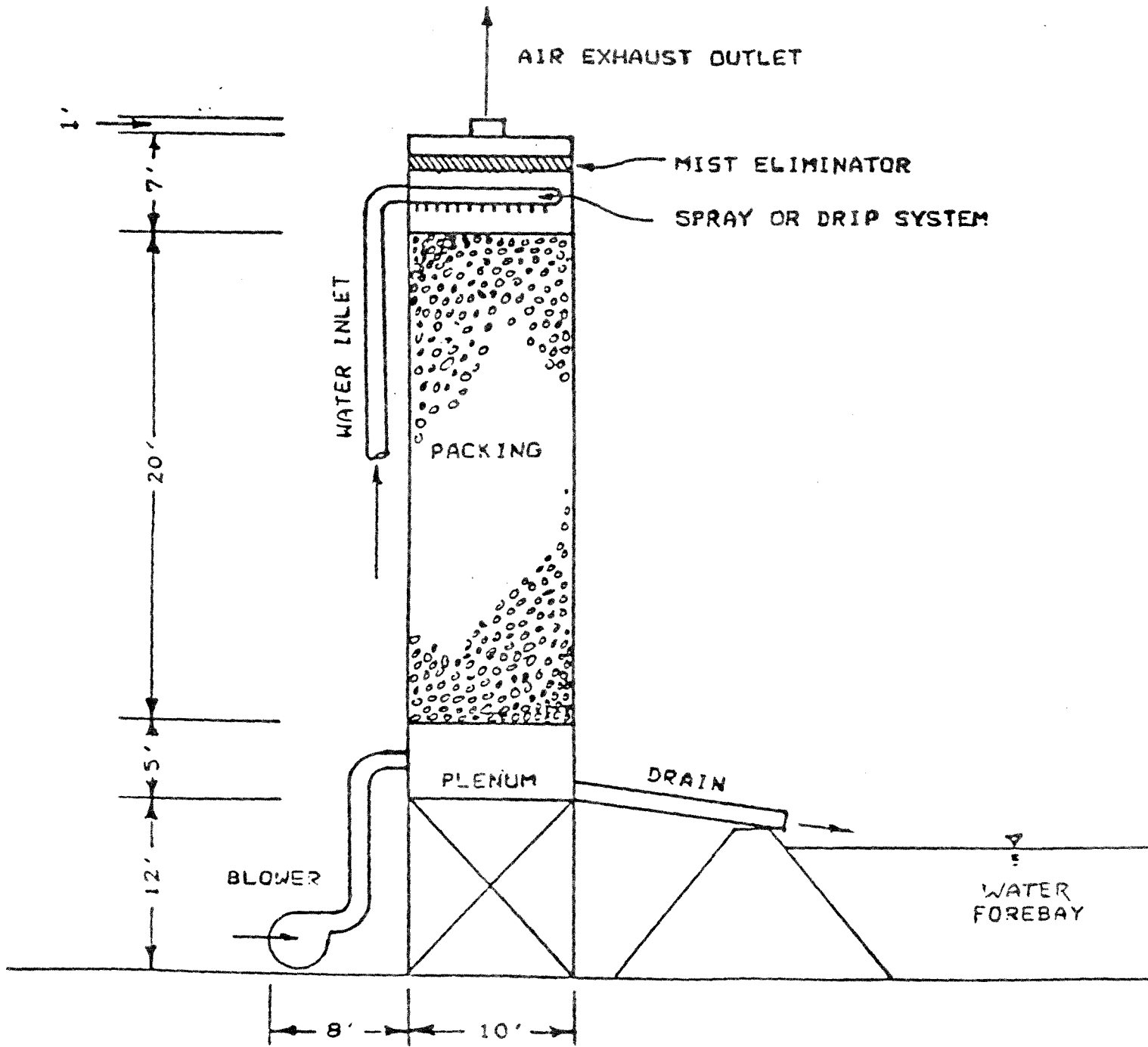
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

TOXIC AIR CONTAMINANTS
REQUIRING BACT DETERMINATION
AND RISK ASSESSMENT (HEALTH IMPACTS)

COMPOUND

Acetaldehyde	Ethylene Oxide
Acrolein	Formaldehyde
Acrylonitrile	Hexachlorocyclopentadiene
Allyl Chloride	Lead
Arsenic	Maleic Anhydride
Asbestos	Manganese
Benzene	Methyl Bromide
Benzyl Chloride	Methyl Chloroform
Beryllium	Methylene Chloride
Cadmium	Mercury
Carbon Tetrachloride	Nickel
Chlorobenzene	Nitrobenzene
Chloroform	Nitrosomorpholine
Chloroprene	Polycyclic Aromatic Hydrocarbons
Chromium	Perchloroethylene
Cresol (all isomers)	Phenol
p-Dichlorobenzene	Phosgene
Dialkyl Nitrosamines	Polychlorinated Biphenyls
1-4 Dioxane	Propylene Oxide
Dioxins	Trichloroethylene
Epichlorohydrin	Vinyl Chloride
Ethylene Dibromide	Vinylidene Chloride
Ethylene Dichloride	Xylene (all isomers)

DWP
PROPOSED STRIPPING
TOWER



DWP STRIPPER
SCREENING MODEL

CONC. (PARTS/TRILLION)

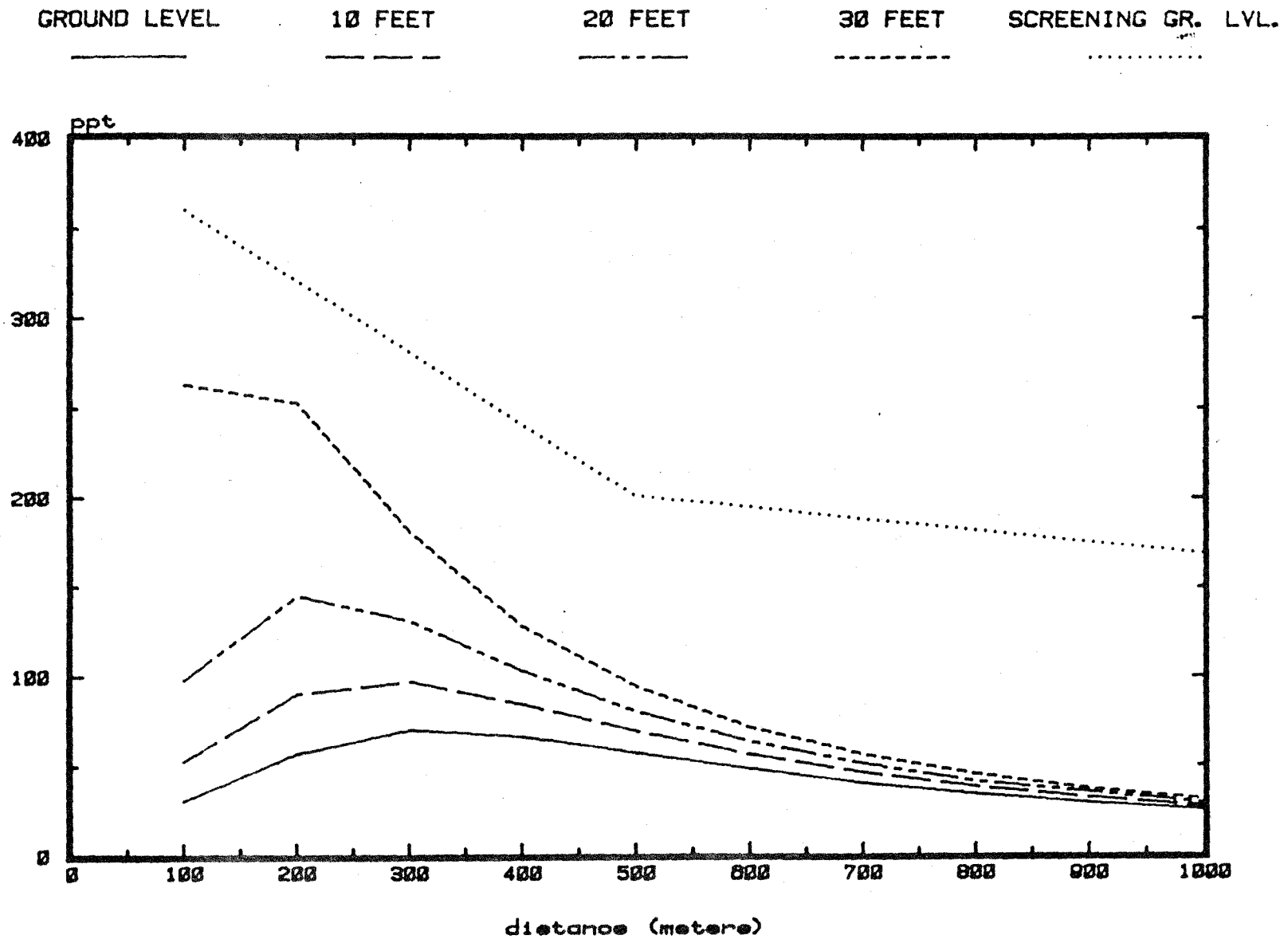
PCE	15
TCE	376

DWP STRIPPER
MODEL COMPARISON

TRICHLOROETHYLENE (PARTS PER TRILLION)

	<u>GROUND</u>	<u>10 FT</u>	<u>20 FT</u>
SCREENING	376 PPT	--	--
DETAILED	70 PPT	97 PPT	145 PPT

Comparison of Predicted TCE Maximum Annual Average Impacts to the Northwest of the DWP Source



PREDICTED MAXIMUM ANNUALLY AVERAGED IMPACTS OF TCE AND PCE FROM
 THE PROPOSED DWP AIR STRIPPING TOWER TO THE NORTH HOLLYWOOD AREA

RECEPTOR HEIGHT	TCE CONCENTRATION (PPT)	PCE CONCENTRATION (PPT)	RANGE METERS	DIRECTION DEGREES
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GROUND LEVEL	70	4	300	300
10 FEET	97	5	300	300
20 FEET	145	8	200	300
30 FEET	263	15	100	300

1992

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020