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Orientation Hearing with State Agencies Regulating Toxic Substances

Assembly Subcommittee on Toxic Substances

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ORIENTATION HEARING
WITH STATE AGENCIES
REGULATING TOXIC SUBSTANCES

INTERIM HEARING
ASSEMBLY SUBCOMMITTEE ON TOXIC SUBSTANCES
SALLY TANNER, CHAIRWOMAN

September 18, 1980
Room 4202 - State Capitol

MEMBERS
Assemblywoman Sally Tanner, Chairwoman
Assemblyman Jim Ellis
Assemblyman Gerald Felando
Assemblyman Jack Fenton
Assemblyman Elihu Harris

STAFF
Michael Beltram
Committee Secretary
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STATE AGENCIES
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ASSEMBLYMAN JIM ELLIS
ASSEMBLYMAN GERALD FELANDO
ASSEMBLYMAN JACK FENTON
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CHAIRWOMAN SALLY TANNER: Welcome, I'm pleased that you're here. This is our first meeting of the Subcommittee on Toxic Substances.

We are here today to begin our review and evaluation of the statutory and regulatory framework for the control of toxic substances in the State of California.

In California, approximately five million tons of hazardous waste are generated annually. We are continually discovering irreparable damage to the health and the environment because of this waste. This waste has been found seeping into our water supplies and it usually comes from hazardous waste dump sites. These problems have led to an outcry from the public concerning chemical production, use and disposal in this state.

A recent incident in the Los Angeles area exemplifies the need for improved toxic substances coordination between all governmental agencies. In this particular incident a hazardous waste presented a continual health hazard for a full two years prior to its being forced to close by a court order. As of this date, the cleanup of the hazardous materials has not been accomplished and is not expected to be accomplished in the near future.

The coverage of this dreadful incident by the media indicates more than ever that the citizens of California are demanding their government officials take aggressive action to prevent future chemical crises. We are constantly being held accountable for ensuring that our solutions work and fit the needs
Our first step in this process is to evaluate the adequacy of current control standards pertaining to the hazards caused by exposure to toxic substances found in the State of California.

We, as the legislative body, have the responsibility of providing a statutory framework that will allow state agencies to control the use of hazardous materials. You, as the program administrators, have the final duty of accomplishing such control. Our goal is a common one: namely, one designed to identify problems, solve them and to be prepared to prevent or meet future ones. Our Committee's intent is the protection of public health and the environment from the effects of hazardous substances.

At the present time, the State of California has some of the toughest laws in the nation for the control of hazardous materials. However, when it concerns toxic substances, these laws must be properly implemented and actively enforced to help prevent problems because prevention is our best antidote.

The degeneration of environment and public health warrants an immediate coordinated effort by all governmental agencies. We must work together to assure a unified plan of action.

This hearing is our Committee's first step in a long process designed to help understand what the agencies' authority, responsibilities and needs are. We must determine what legislative requirements and administrative agencies need to help them accomplish effective protection of public health and the environment from toxic substances.

We have a large number of people on the agenda here to brief us. The purpose, of course, of today's hearing is so that
the Committee members can be briefed and so that we can get a better picture and understanding of what can be done, what is being done to control hazardous waste. I would like to call on Peter Weiner first. Before I do that, I would like to introduce the staff in case some of you don't know. Martha Valdes is the consultant to the Committee. Mike Beltram is secretary; Mike Ross is an intern working out of my office. Peter Weiner is from the Governor's Office.

PETER WEINER: Madam Chairman, members of the Subcommittee, I'm very happy to be with you today. I would like to recognize that in the last year both the Governor and the Legislature have taken firm action to control toxic substances and yet recognize that there is far more to do. This morning, as your first witness, I would like to give a slight overview of the subject as we see it in the Executive Branch, talk about what some of the things are that we have done and what there is to do. A few years ago, Governor Brown created controversy by stressing that we live in an era of limits in terms of our environmental and governmental resources. More recently, he has emphasized the possibilities that remain for forging anew the productive and fertile society that to many people seems sadly on the decline. These things are complimentary, not contradictory. They are both exemplified by the naughty problems only now highlighted by extensive media coverage, which we face as a result of our extensive use of toxic substances. By now many of the themes are familiar to you. Between 1941 and 1977 our use of toxic substances increased 200 fold, amounting to over 5 billion pounds by 1977. We may have 5 million tons of hazardous waste in this state, but waste is only a small part of the problem. We use
chemicals and metals for whole new industries in the last 30 years to create products which gave us something new and convenient and to create life-saving or life-enhancing tools. We did so without first testing to see whether these substances would harm us, our children or the environment, and without knowing how to dispose safely of the wastes we were creating. We thoughtlessly stole from the future to pay for present consumption, and the magnitude of that theft is only now apparent. We now have hundreds of chemicals in commercial use whose ability to cause cancer or birth defects is suspected but not known. Industrial workers have suffered most from these exposures, cancer from asbestos, sterility from DBCP, but all of us suffer from the degradation of our air and water, and some of us suffer more than others. We have abandoned dump sites where past practices cause current health problems, and we are fast running out of room for hazardous waste to be disposed. Finally, transportation of hazardous materials to our farms and factories, 88 million tons a year in California, creates risks of spills and emergencies whose consequences range from traffic snarls to evacuation. We've reached the limit to our ability or willingness to continue to pollute this planet. We're doing something about that. We've done something in the last year. The Governor, with the help of the Legislature, has passed 14 bills, has doubled our resources devoted to toxic substance control. I've given you this morning a copy of our report, which is only a nine month progress report I should say mentions some but not all of other legislative efforts that were not part of the Governor's original initiative in this area, but which were part of the responsible response and initiatives by members of this body. There's a lot more to do, and
I would like to mention a few of the things that we are looking at for future legislative and administrative action. First, the burgeoning perimeters of this problem can simply overwhelm us if we react to everything as if it were equal in magnitude. Government must react in order to assure the public trust. We have to avoid over-reaction if we are not to stretch ourselves so thin that we can't react to the most hazardous problems first, and we've got to plan for the future. I think the two items that are clearly on the top of everyone's list are these: First, we need funds to clean up the existing abandoned sites where we do not have a financially responsible owner. To that end I spent the last two days in Washington lobbying with the California delegation to support the superfund bills. It is clear now that the superfund bills in the House will pass; it is also clear that the superfund bill in the Senate is bottled up and stands a good chance of not coming out at all. If there is no superfund bill passed out of the Senate, there will be no conference committee; there will be no superfund. If there's not, we must assess the need for such a fund in California, going it on our own. Secondly, we know that there's a need for more sites. We know that if we don't have more sites there will not be an end to the use of toxic substances; rather, there will be an increase in midnight dumping; there will be an increase in putting hazardous waste into our sewers. We've got to find environmentally responsible sites that do not exacerbate transportation risks, but also do not impinge upon anyone living any place in California. We hope that in the coming months, by meeting with all effective parties and by working closely with the Legislature, that we will be able to
find legislative or other solutions to this problem in a hurry. Third, we last year proposed and will propose again legislation to assure the safe operation of the trucks on our highways that carry 77.6% of those 88 million tons of hazardous substances every year, but the Los Angeles Times, the Oakland Tribune and others have noted the need for truck inspection maintenance to assure safe transportation. We agree. In the long run we can't continue to pollute the planet. We need alternatives to the production of hazardous waste, and alternatives to landfill disposal. We are working independently on that; we are also working with EPA and the National Governor's Association in Washington on that topic. We want to find safer substitute technologies; we want to increase recycling; we want to find incineration and other means of disposal that will be environmentally acceptable, but will also avoid landfill. We need new programs to combat various kinds of pollution. Dumps are in the news these days, and with good reason. They cause problems that we didn't know about before. But, let's face it, there are relatively few people actually living near those dumps or affected by them. We have millions of people affected by air pollution, by degrading water quality, by workplace exposures, by pesticides on our food. These are the kinds of areas where we need to move in one way or another to control those kinds of relatively low level but persistent exposures which can affect the genetic rights of future generations for hundreds of years to come. We want to be especially careful about reproductive hazards. The people are much more concerned about their children than they are about themselves, and we literally don't know how many substances
there are that cause birth defects, that cause abnormal reproductive functions. These are things we need to look at in a research and regulatory capacity soon. We're also very concerned about citizens who are injured by intentional or negligent releases of substances into the workplace or the environment and who have little right to sue or gain compensation for the damages that are caused. We want to consider the establishment of private rights of action against employers who intentionally expose their workers to certain harm, or who intentionally cover up the hazards of those exposures.

There is no reason for the Workers' Compensation System to subsidize intentional torts. We also want to consider the passage of legislation that would make statistical proof of probable harm admissible in judicial proceedings against hazardous waste dumps for other polluters. That latter provision is something we originally suggested to the U.S. Senate and is incorporated into the provisions of SB 1480, the Senate Superfund Bill. We think we need such a provision in California. Finally, it is very fashionable these days, and I know that Assemblyman Torres is far more aware of this than I, to blame the victims for their ill health, to state that health is a problem of diet, that health is a problem of exercise, that if you are ill it is you who must take responsibility for your own health. In some parts, that's true, but we must integrate health protection with health promotion or we will indeed have blamed the victims of toxic substances exposures for their own problems. These are a few of the problems that we see. We'd like to work closely with you. We're awfully happy that you exist. We know that you all take this problem very seriously, as do we, and we look forward to working with you in the future. Thank you very much.
We'd also like you to know that we finally make the cover of "Times".

CHAIRWOMAN TANNER: Yes, and yesterday's Conrad cartoon also. The next witness will be Dr. Donald Lyman from the Department of Health Services.

DR. DONALD LYMAN: I'm Dr. Donald Lyman, Deputy Director of the Department of Health Services, and I'm chief of the Public Environmental Health Division of the Department. I'd like to embellish a little bit on what Peter Weiner had to say and call your attention to the last page of the handout you got from me, which has this graph on it. This is a recent publication of the New England Journal of Medicine, and I thought I should share it with you. It gives something of an overview of what this issue means in terms of public health. If you were born in 1900, your chance of survival is represented by the dotted line, the line on the bottom, and it indicates that your medium survival in years is about 55. That is, if you were born in 1900, you could expect to live to the age of 55. The dotted line above represents your chance of survival time is about 75 years. What's happened here in the last 80 years is largely a 20 year extension of life expectancy, substantial improvement, a great event. You will also notice that there's a little mark in the line up here around the age of birth. This indicates that in 1900 a large part of your problem in survival was survival shortly after birth. The dotted line above that for 1980 indicates that we have dealt very effectively with that problem. How did we do that? The leading causes of death and illness in 1900 were things like diarrhea, things that were spread environmentally. The extension of life expectancy from 1900 is largely
due to an application of environmental controls. Clean water to drink, clean food to eat, safe places to work, and those very simple measures addressing bacteriologic events have extended both the quantity and quality of life. The solid line indicates what we think is the maximum life expectancy we can have, which is about 85. The game in public health today is to move the dotted line as close to the solid line as possible. The leading causes of illness and death today are things like cancer, heart disease and chronic disease, which occur among the middle age and older population. The leading cause of death today is heart disease or diseases of the vascular system, strokes, kidney failure. We can expect that a part of these illness patterns is due to exposures to toxic substances. I don't know how much, but I can tell you that we think that it is a substantial part. In addressing the issue of toxic substance exposure today with the public at large, we're really speaking to a movement of this line further on out, an extension of both quantity and quality of life for the ordinary citizen. We've been successful in the past using environmental controls to extend quality and quantity of life, and we think that in addressing an environmental issue here we're also addressing quality and quantity of life.

ASSEMBLYMAN ELLIS: Mr. Weiner indicated that practically all of the substances that we're dealing with have been either discovered or perpetuated in the last few years, yet your indication here is that in spite of all of these toxic substances that have been developed the life expectancy has improved. I expected to see your chart move the other way, that the 1900 line would be the top.
DR. LYMAN: Well, what I showed here is with the environmental controls addressing bacteriologic events we have extended the line 20 years. You are no longer likely to die of tuberculosis; it is very unlikely that you will ever contact it or be exposed to it. It's very unlikely that your child will die of diphtheria or diarrhea, which was the leading cause of death among children in 1900. The movement of the line to where it is, most people feel, is largely due to those environmental controls for bacteriologic events. Now, having eliminated or substantially reduced those diseases, the next question is what is likely to make you ill today, and the answer today is heart disease, kidney disease, diseases of vessels and cancer. We do feel that a large part of the causation of those diseases can be traced to toxic substance exposure. Probably one of the reasons we see those diseases today is that we are exposed to them and have been for the past ten or twenty years.

ASSEMBLYMAN FELANDO: Sir, you made the statement that they can be traced to toxic substances. Now, try and keep in mind that you're testifying in front of a Committee and often what you say is what the press is going to print, or what the TV media is going to show. I really don't like to have a witness come up with conjecture. If you've got some facts and you can say yes, we can actually trace this to a toxic substance, that's fine, but don't say "can" because "can" indicates to me that you haven't done it.

DR. LYMAN: I should respond that in part we know that a number of cancers and other things have, in fact, been traced to these exposures. In point of fact, most of these documented cause and effect relationships have taken place in the occupational work
setup. The shipyard workers in the Bay Area are exposed to asbestos and subsequently develop forms of cancer. In an environmental sense there are some cases where we can document that connection. Cigarette smoking is probably the most obvious one.

ASSEMBLYMAN FELANDO: Yes, but we don't do anything about it, do we?

DR. LYMAN: Well, we try, and we have found that there has been a substantial reduction in smoking in some populations. Cigarette smoking is not only linked to cancer causation, but as a facilitator. I think it's appropriate to say that we can reasonably suspect that these exposures are a part of the cancer picture. I would agree with you it is unfair to suggest that it is the total picture, or that we have a quantitated cause and effect relationship. The Department of Health Services has a major role in the control of toxic substances. This responsibility resides largely in two branches within my division. Environmental Health Branch performs a variety of regulatory functions in specified areas such as food and drug control, hazardous waste control, vector control and water supplies. Dr. Harvey Collins, who is here with me, will outline their programs for you in a few minutes. The other branch involved in the area of toxic substances is the Preventive Medical Services Branch. The epidemiologic study section in that branch includes a number of units intimately involved in the health effects of hazardous substances and also on the outline I've given you. To point out briefly, we have an Air Sanitation Unit with a statutory function of advising the Air Resources Board on the health effects of air pollution and recommending air quality standards; a Pesticide Unit, which, among its other functions, carries out the Department's
statutory joint and mutual responsibility with the Department of Food and Agriculture for the development of worker safety pesticide regulations. The unit known as the Hazard Evaluation System, which you may recognize as the Hazardous Substances Repository, was established last year. Its mission is to establish a repository of information at a center of expertise on toxic materials in the workplace, and to make active use of this information by disseminating it in the most effective manner to employers and employees.

CHAIRWOMAN TANNER: How do you do that?

DR. LYMAN: We have an advisory committee that's set up between us and the Department of Industrial Relations. They instruct the unit on how to function, which substances to look at and in which way. Once a review of the literature is made and a statement of fact rather than conclusions of fact is available, they then review that for dissemination to the appropriate employers and employees. The committee is made up of industry, labor and the academic community. It's balanced among the three. Lastly, there is a Toxic Substances Epidemiology Unit, which was added to this year's budget and is now in the process of formation. This unit will be responsible for investigating the health effects of community exposure as opposed to occupational exposures, to toxic substances and hazardous waste sites, toxic spills and things like that. I've given you the descriptor of these things for your review. I would like to introduce Dr. Harvey Collins who is in charge of our Hazardous Materials Management Section and designated as our Chief of the Environmental Health Branch.

DR. HARVEY COLLINS: Good morning, Madam Chairman and members. I am Harvey Collins, Chief of the Hazardous Materials Management
Section within Health, and in the next few minutes I would like briefly to summarize the Environmental Health Branch's role in the toxic field. As Mr. Weiner and Dr. Lyman pointed out, it is far larger than just hazardous waste that we seem to read about daily in our newspapers. Primarily, the branch, in regards to food and drinking water, is to control those daily requirements without adding toxicants to our system that we can't tolerate. We have a food and drug section that constantly tries to control the environmental contaminates that might get into the food chain; the sanitary engineering section tries to regulate chemicals that might get into our domestic water supplies; and then the hazardous waste program, which I will save until last since it seems to be the most newsworthy thing of recent history at least, but as far as the food and drug section goes, they try to control pesticide residuums within the food chain. They look at good additives that might be toxic that can be added; environmental contaminates that we might not want to get in the food supply, but get in there inadvertently.

CHAIRWOMAN TANNER: You say they try to control these things. How actually, mechanically, do they try?

DR. COLLINS: What they do is work closely with the Department of Food and Agriculture in actually analyzing for residues in food. Those residues might be toxic residues or they might be residues from mice or rats, filth or contaminates of any kind. They also will be present during the canning program where they will watch the temperature of the canning process, make sure the temperature pressure relationships are maintained so that we don't get botulism in the food product. So it's a system of inspection and actually sampling
the food products. Any material that is found contaminated, they slap an order on and require it to be withdrawn from the shelves. Then they will witness the destroying of that material. Recently you may have heard about a bacterium in the milk supply from a dairy in Southern California where they found salmonella. That milk was required to be withdrawn from the shelves, again in cooperation with the Department of Food and Agriculture. So that is the effort that they do try to control the various contaminants in the food -- some of which are toxicants, others are contaminants from filth. These actions are all required under the various food and drug laws in California and they are well documented. I believe perhaps the best known is called the Sherman Food and Drug Act -- the pure food law which was passed originally in 1907. The actual dates and sections of those various codes are in the prepared statement. The food sanitation in general I think contributed appreciably to the moving of that curve-over as we developed safe water supplies and safe food supplies. Then we no longer feared an early death from eating contaminated food or drinking contaminated water.

**ASSEMBLYMAN FELANDO:** You were just talking about contaminants in food -- is it not true that a certain percentage of contaminants are allowed in all of the food that is produced in cans, bottles and packaged?

**DR. COLLINS:** It is my understanding that this is correct, sir, and certain contaminants in our drinking water are indeed allowable, such as arsenic that is present naturally in the ground water.

**ASSEMBLYMAN FELANDO:** I specifically know about rat
droppings. What percentage of rat droppings do we allow the people in this state to consume?

DR. COLLINS: I can't answer that specific question. There are standards for those, but I do not have those figures.

ASSEMBLYMAN FELANDO: Moth wings, too, they allow a certain percentage of those also. I would like to have some figures -- how much rat droppings do they allow the people in this state to eat?

DR. COLLINS: I do not know. Perhaps Dr. Lyman does. We can provide those specifics to you.

DR. LYMAN: There are actual percentages; however, I can't tell you what the specific numbers are, but there are in fact standards for hairs and things like that, droppings and what-have-you. This surfaced, as I recall, about 10 years ago when they found that the Clark Bars, the candy bars, had an unacceptably high level of these things in them -- there was a great furor about that. My understanding is there are federal guidelines for interstate shipment, which we enforce.

I could follow up in terms of toxic substances. When the substance DBCP was found in the various wellwaters in the state, there was a question of the canning industry and its use of water from those wells. Was that substance then deposited into the food which had to be canned? And the Food and Drug Section did in fact go out and do extensive testing to be sure that the amount of DBCP that may have been left in the food was below a certain level. In point of fact, we found none, but had there been some found we would have had to establish some level. You are quite right; there are levels for things like chemicals, arsenic -- a very frequent finding in all of California water -- and for things like rat droppings and hairs.
DR. COLLINS: In continuing, I would like to point out also that the Department of Health has the responsibility to regulate the use of pesticides for vector control, so we frequently find ourselves trying to control the excess use of pesticides. On the other hand, we do encourage controlled use of pesticides to control vectors... the mice, the rats, the mosquitos, etc., and again we work closely with the Department of Food and Agriculture in that approach. I would like to point out that in 1967, when the State Department of Health began to oversee local vector control programs, there were 216,000 pounds of actual toxicants applied statewide for vector control. By 1979, this figure had been reduced to 68,000 pounds and we did not have any increase in the vector population to the best of our knowledge. This was the result of drainage of various swampy areas, lowland areas, managing pasture irrigation, working with local mosquito abatement districts to try to better control the use of water, using the larvae of the mosquito. So we encourage the use of pesticides in this area, but only under controlled conditions and in an effort to control by natural means rather than just applying more pesticides.

The last area that I want to talk about deals primarily with the control of hazardous waste, which we have heard mentioned several times. As your document indicates, there are about 5 million tons produced annually in California. There are about 1 million tons that are deposited in our Class I land fills; approximately 4 million tons go to onsite disposal. If you will turn to the last page of my handout, there is a summary that gives those statistics. There are approximately 10,000 generators of hazardous waste in
California, approximately 350 storage and treatment and disposal facilities. Right now we permit all hazardous waste facilities that treat, store or dispose of hazardous waste. We write extremely hazardous waste discharge requirements for any producer that proposes to dispose of these types of residues.

CHAIRWOMAN TANNER: You write the permits -- you are the ones that give out the permits to the disposers, right?

DR. COLLINS: It is really a three pronged program.

CHAIRWOMAN TANNER: My question is regarding recent problems about permits given to people, to a particular company that has been violating the laws. Didn't you refuse a permit -- is it your department?

DR. COLLINS: Yes, we refused a permit recently. I believe you are referring to the case in L.A. County -- any operator of a facility has to have three permits. They have to get a local land use permit from local authorities. Once that land use permit is granted, a discharge requirement is required from the Regional Water Quality Control Board to protect ground and surface waters. In 1978, I believe, this legislature passed a law that became effective January 1978, mandating the Department of Health to grant hazardous waste facility permits -- we are in the process of granting those permits to the facilities that meet our requirements. If they do not meet our requirements of course, we do not grant the permit. So, each permit is required at each step of the way before a facility can operate. They have to get a land use permit from the local land use authority--it is usually the planning commission. Plus, they have to get discharge requirements from the Regional Water Quality
Control Board that says there is no ground water underneath that site. Discharge requirements specify the protective devices necessary to protect ground and surface waters. The Department of Health Services permit deals with incompatible waste mixtures that could result in fire, explosion, health concerns primarily to make sure that health and safety rules and regulations are followed.

Perhaps the most critical need in this entire field of hazardous waste management is the lack of adequate facilities. We have enough to meet our short-term needs, and if something happens for example with one site in the L.A. basin, there would not be a single operating site left down there. Recently, the Calabasas site operated by the L.A. County Sanitation District was closed. The Palos Verdes site in that basin is scheduled to close immediately. That leaves one remaining Class I site -- in the L.A. basin, the BKK site.

ASSEMBLYMAN FELANDO: In regard to the Palos Verdes site, after sites are in operation does the state have an inspection program where they go out and actually inspect the sites?

DR. COLLINS: Yes sir.

ASSEMBLYMAN FELANDO: When was the last time that Palos Verdes site was inspected?

DR. COLLINS: I couldn't answer that, sir; I do not know.

ASSEMBLYMAN FELANDO: I know for a fact that liquid permeates from that site down through the site to perhaps a quarter to a half a mile away and then resurfaces in the backyards of homes.

DR. COLLINS: This is the first time I had heard that.

The sites are inspected by the Regional Quality Control Board. They
are inspected by our department and others and this was the first I have heard that leachate was seeping from that site and surfacing in backyards.

ASSEMBLYMAN FELANDO: If I wrote a letter to the Department for a formal inspection, could I get an inspection of that site?

DR. COLLINS: You certainly could.

ASSEMBLYMAN FELANDO: Would you give me one of your cards before you leave, because I am going to write the letter this afternoon. Thank you.

It absolutely destroyed every piece of vegetation in these people's backyards.

ASSEMBLYMAN ELLIS: What is it though?

ASSEMBLYMAN FELANDO: I don't know; it's liquid.

DR. COLLINS: You would have to ask the question, sir, as to the portion of that site where the liquid is coming from. The site accepts regular household garbage, refuse. But also industrial waste may go in there -- brine, salt water may go in there. So, you would have to ask the question -- is that leachate coming from the Class II part of the landfill where the garbage is going and, if so, it may contain organic residues that have leached from the garbage. If it is coming from the industrial waste part of the landfill, it could contain chemicals and other materials. So, we would certainly want to follow up on that -- the regional board and ourselves would want to check that out.

But, the point I wanted to make on the shortage of landfills is that without a mechanism to establish new facilities, a single landfill could be closed and there would not be an acceptable place in the L.A. basin to handle these various by-products. People
would be out of work -- it could be serious. Almost daily we can turn on our TV sets and see about mismanaged hazardous waste, but with adequate facilities that are policed where you don't have ground water pollution, they are the safest place to put these residues.

ASSEMBLYMAN FELANDO: That is all well and good to have a land fill like the Palos Verdes land fill and it's a safe place to dump hazardous waste. However, the leaching that is taking place now, then what is safe in quotes, "what is safe" because every time it rains, even after the land fill is closed maybe for a hundred years -- every time it rains that hazardous waste is still going to be leached down through the soil and is going to come out somewhere.

DR. COLLINS: Dr. Felando, if that leaching is coming from that landfill, it is in violation of the Regional Water Quality Control Board's discharge requirements.

ASSEMBLYMAN FELANDO: I want the top guy to come down there when you decide to set this inspection up, and I want to be there.

DR. COLLINS: Fine. Fine. Also, the State Solid Waste Management Board regulates those Class II land fills that accept municipal refuse. They, too, would not permit leaching to continue. So if that leaching is coming from the land fill, we can show it is coming from the land fill, we can require abatement, so we want to follow up on this immediately. I don't want to leave the impression that more land fills are all we need. Certainly we have got to take a broader view of it than that. We have got to look at source reduction, we've got to look at resource recovery, we've got to look at higher technology and, as Mr. Weiner mentioned, we've worked with the Governor's office this past year to see where we could go in that area. We are in the process of contracting with another state agency.
now to look at alternatives to land fill. There are certain wastes
that probably should not be placed in our land fills without prior
treatment. Neutralization, detoxification of some sort -- some
materials such as our polychlorinated biphenols should be destroyed
rather than land filled. Certainly some of the organic materials,
the carcinogens and others may be fairly low in volume but very bad
actors from a health viewpoint, should be destroyed. Yet, until
we get an incinerator in the state that is capable of destroying
those materials, it doesn't make sense to prohibit them from our
land fills legally. We are trying to proceed as fast as possible
in looking at advanced technology, encouraging other alternatives
to land fill, and so we will be doing that primarily in the next year.

ASSEMBLYMAN FELANDO: Is there research into the recycling
of waste? In other words, the end products of the production of
gasoline at one time were dumped and discarded, and then we founded
the plastics industry and other industries. Are there steps underway
now to find possible uses for the hazardous wastes that we are
dumping now?

DR. COLLINS: Yes, the Department of Health Services has
adopted regulations that list all waste that we think can technically
and economically be recycled. Anytime an industry disposes of the
waste that is listed in those regulations, we write and demand a report.
We ask them, have you considered recycling this material; have you
researched all alternatives? Other industries in this category may
be able to use this waste. We meet with them then on a personal basis
to see if they follow through, and so we are encouraging more and more
recycling by this reporting requirement. There is no fiscal surcharge
for someone disposing of something that we think is recyclable --
all we can do is demand a report, and we do that routinely. So, many
industries, because they feel it is to their economic advantage, plus they don't have to go through the reporting procedure, are looking within their own industry on how to keep those wastes, recycle them and not have to dispose of them. I know of no single research project, however, that deals with that -- it is primarily industry by industry that looks at their particular waste and tries to decide whether they can recycle them.

ASSEMBLYMAN FELANDO: You know, it might be a good bill to have some tax advantages to industries that do have research programs to find a use for their wastes. Now, that's an idea -- to stimulate the industry.

DR. COLLINS: That's true, sir, and certainly any incentives that the state could provide to encourage industry to do this sort of research and to recycle more and more waste certainly saves our resources and saves us from future problems that we witnessed recently. So we too would like to see something positive here in this field. Maybe low cost loans, grants to recycling facilities, perhaps maybe research projects -- that is an excellent suggestion. That concludes my prepared remarks and off the cuff remarks, Madame Chairman.

CHAIRWOMAN TANNER: Are there any other questions? Thank you very much. Mr. Dave Cohen from the State Water Resources Control Board will be our next witness.

DR. DAVID COHEN: Thank you Madam Chairwoman and members of the Committee. I am Dr. David Cohen, Program Manager of the State Water Resources Control Board's Toxic Substance Control Program. I am speaking today on behalf of Mrs. Carla Bard, Chairwoman of the State Board, who was unable to attend because of a previously scheduled
Board meeting. Mrs. Bard asked that I convey to you our Board's appreciation for this opportunity to testify before your committee and express her deep regrets at her inability to be here this morning in person.

The State and Regional Water Quality Control Boards are charged with the responsibility of protecting the quality of the State's waters. The basic elements of the program conducted by the Boards were enacted by the Legislature in 1948. The Boards are required to establish water quality objectives for the State's waters, and ensure that these objectives are met by application of performance specifications to specific discharges. These performance specifications, termed waste discharge requirements, contain specific limits on the allowable quantities of waste products which may be discharged to the State's waters. While this process constitutes the basic regulatory responsibility of the Boards, they are responsible for numerous other programs which are intended to preserve and enhance the quality of the State's waters. These programs include a combined state/federal construction grant program for assisting local public agencies in development of adequate waste water treatment, and programs to provide overall water quality planning, data gathering and research.

The State and Regional Boards, in administrating their responsibilities, coordinate their activities with several other state agencies. These agencies include the Department of Health Services, the Solid Waste Management Board, the Department of Fish and Game and the Department of Food and Agriculture. Besides the coordination that is required within state government, the State and Regional Boards have a close and ongoing relationship with the
federal Environmental Protection Agency. The State and Regional Boards, pursuant to provisions contained in federal statute, act as agents for the federal government, and many state regulatory actions also constitute federal requirements. This is the case when the State issues a waste discharge requirement for a discharge into State's surface waters. The waste discharge requirement also serves as a federal permit under EPA's Clean Water Act. A similar working relationship between the state and federal government occurs in programs designed to regulate the discharge of toxic and hazardous wastes, such as the Resource Conservation and Recovery Act and the Safe Drinking Water Act.

The State and Regional Boards have, from their inception, been exceedingly concerned about toxic waste disposal. The State Boards enacted the first regulations in the nation which classified land disposal sites based on the types of waste discharged. This classification scheme is being used as a model by other states in an effort to provide adequate disposal sites for toxic waste. California was also the first state to use toxicity bioassays as a means of identifying and regulating toxic waste discharges. Despite the fact that the State and Regional Boards have for a number of years been very active in regulation of toxic wastes, we recognize that much greater efforts are required now, and in the future, if this immense problem is to be eliminated. In this regard, the State Water Resources Control Board has recently established a Special Toxic Substances Control Program which is assigned the responsibility of developing and initiating new regulatory efforts.

CHAIRWOMAN TANNER: Dr. Cohen, we are hearing and reading more and more about this midnight dumping into sewers. How do you
monitor that? Is it your responsibility?

DR. COHEN: There is a dual system of monitoring. We require every discharger to have a self-monitoring program written into the waste discharge requirement, so there is an honor system and there is also a policing system. We don't rely solely on the self-monitoring, but we also have our own compliance inspectors who go out and sample and cross check. I would say up until very recently, unfortunately, the resources available for this policing effort have been less than what we think is required. We have in the last fiscal year been given some additional resources and we are definitely beefing up this effort.

The toxic program is assigned the responsibility for developing, initiating new regulatory efforts. The major elements of our toxics control program include hazardous wastes, pesticides, abandoned mines, emergency response, source control/pretreatment and sewage sludge.

In order to implement these major elements, more than 30 separate tasks have been identified. Each task has a detailed problem statement, objective and work plan. I have a handout that provides a brief summary of these 30 tasks. Please note that I have grouped the summaries into three categories:

The first category includes programs in which the State Board is the lead agency or shares the lead role with the Regional Water Quality Control Boards.

An example of these programs includes EPA's Underground Injection Control Program under the Safe Drinking Water Act. This program is proceeding to identify all existing or abandoned injection wells in the State which may pose a potential threat to groundwater.
aquifers from toxic substances. Our Regional Board staff, with the assistance of the Department of Health Services, will be inspecting industrial on-site disposers of chemical wastes, and assessing the likelihood of present or past disposal practices adversely affecting underground potable waters.

We are also expanding our existing program of monitoring the State's surface and groundwaters for toxic substances, including heavy metals, pesticides and potential carcinogens.

Many of the Regional Boards' existing Waste Discharge Requirements were issued many years ago, and so another major effort which we are embarking on is a review of waste discharge requirements for possible inclusion of new toxic substances not previously considered.

CHAIRWOMAN TANNER: When was that? When were they originally issued?

DR. COHEN: They have been issued for the past essentially 30 years, but in general they are reviewed periodically. Some may not have been reviewed for 5 or more years, primarily if no problems have been evident.

CHAIRWOMAN TANNER: A considerable number of things have happened in that.

DR. COHEN: That is correct, and that is why we feel it is now essential that we review them systematically for the new list of toxic substances which perhaps are not considered. We generally stress conventional pollutants like Putrescible materials, biochemical oxygen demand and so forth. The new emphasis is now on toxic substances.

The second category of programs which the Board's toxics
effort is involved in includes programs in which the lead role is shared among one or more state agencies. First, a development of a single permit application form for the state agencies having regulatory responsibilities in this area; second, a development of a joint inspection form for coordinated inspection of waste disposal sites by ourselves, the Department of Health Services and the Solid Waste Management Board; third, a coordination of Enforcement Actions by developing procedures for determining which state agency should take the lead for specific enforcement actions, and for rapid interagency notification of violations.

CHAIRWOMAN TANNER: I think that's very important.

DR. COHEN: As we heard this morning, we need a rapid alert system for things such as Palos Verdes if perhaps we were aware of it before.

The final category of programs which we describe in the handout includes programs in which we participate but do not have lead responsibility.

An example in this category is the Abandoned Hazardous Wastes Sites Survey in cooperation with the Department of Health Services.

Once an abandoned site is identified as a "problem", the Regional Boards may assume lead responsibility in this area on a site specific basis, if it is determined that water quality problems are a major concern.

I will provide copies of this handout to the Committee members and the Committee staff at the close of my testimony.

While the State and Regional Boards have a history of vigorous actions in the toxic substances area, and while we are
presently developing new programs and procedures to assist us in combating the environmental hazards posed by toxic wastes, there are numerous problems which need immediate attention.

One problem that reoccurs is the difficulty associated with the numerous agencies that have parallel jurisdiction over the generation, transport and ultimate disposal of toxic and hazardous wastes. In order to combat this problem, the State Board has entered into a Memorandum of Understanding (MOU) with some of the agencies having jurisdiction in this area. This MOU outlines the various responsibilities and understandings that we have reached with regard to our respective jurisdictions. Additionally, the Governor has created a state Toxics Substances Coordinating Council, which is a further effort to provide a coordinated, effective approach to the problem of regulating toxic substances.

Despite these well-conceived efforts, we feel that there is a definite need for legislative attention to the problem of fragmented authority among several state agencies. We see a need to look more closely at agency responsibilities, and to group similar programs together for their effective administration.

Another problem that has occurred has been the creation of new regulatory programs without provision for adequate funding to conduct the new program. Unfortunately, the problems associated with the control of toxic substances are difficult, both procedurally and technically. Simple administrative mechanisms are rarely available for solving them. In the control of toxic wastes, California is on a regulatory frontier. New technology and regulatory mechanisms must be developed -- and this will be an expensive task. We look
forward to working with this committee to identify these new areas and develop sound programs designed to bring the problem of toxic wastes under control.

Finally, an area which I know the Committee is interested in, is the enforcement of existing and future toxic substances regulations. Enforcement is a difficult subject and is surrounded with legal and procedural difficulties. It is, however, a key element of any successful toxic substances control program. Your committee may wish to take an in-depth look at this program element at a later date when you have had time to assess the numerous details, including the strengths and weaknesses of existing programs.

In conclusion, we welcome your investigation and look forward to working closely with you in the future. If you desire any additional information on our Toxics Program, please call on us. Thank you, and I would be glad to answer any questions you may have.

CHAIRWOMAN TANNER: Thank you very much. Are there any questions? Thank you very much. Mr. Gerald Meral will be our next witness from the Department of Water Resources.

MR. GERALD MERAL: Thank you Madam Chairwoman, members of the committee. Good morning, I'm Jerry Meral, the Deputy Director of the State Department of Water Resources. I would like to thank you for the opportunity of addressing your committee as potential participants in the ground water monitoring task force, which is described or committed to minimizing the dangers of toxic substances in our water. I would like to point out that our Department has no regulatory authority over toxic substances, but we do have three roles. One, is a source of information; two, the administrator of a program to assist communities in coping with problems in their water supplies; and three, a practitioner of integrated test
management in our operations. The first role is under various sections of the water code, which I have noted in my testimony. These are broad authorities to investigate surface and ground water conditions, such as ground water quality and pollution; formulate plans of control, conservation and protection of the state's waters; and to develop recommended minimum standards for well construction, which is quite an important aspect of controlling ground water pollution. We are actively involved in monitoring and testing the state's ground water as part of our water quantity and quality measurements program. Our chemical laboratories out at Bryte, here in Sacramento, and Castaic in Southern California, perform most of our analyses. We measure water levels at 2,000 wells and analyze samples of about 600 wells annually in 80 ground water basins throughout the state. We don't have any permanent authority over wells but we can recommend well standards to protect the quality of underground water. These appear in our Bulletin 74, which we are now going to update. We also are the state's repository for information which must be filed under water code sections whenever a water well is constructed, repaired or abandoned. There are confidentiality requirements regarding these wells, but the well logs are available to interested agencies to provide information on sub-surface water formations and rock formations, which can be useful to determine methods to mitigate the intrusion of toxic substances in the ground water. We are also active in testing and monitoring the state surface water with a water quantity and quality measurements program. We do have an extensive network of measuring points throughout the state. We feed that data from our department's measurement program into a computerized system called the water data
store, recall and analyze information on water quantity and quality, but we are attempting to expand that system to take more thoroughly into account the data we have available from groundwater. This is done in cooperation with the Water Resources Control Board, and EPA. Our second major role is perhaps our most important and that is our safe drinking water program. I have provided some testimony on that program to the subcommittee that investigated DBCP, and I would like to describe it here as well. In conjunction with the Department of Health Services, we administered the Safe Drinking Water Bond Law of 1976. This was the Proposition 3 on the ballot of that year. It's aimed at bringing domestic water systems in the state, which are on a priority list set up by the Department of Health Services, up to minimum standards. Like many others, we are particularly alarmed at the ground water contamination in the San Joaquin Valley and other areas in the state. Some of the problems we have been trying to deal with are DBCP, TCE and excessive nitrates. The safe drinking water program provides financial assistance in situations like this or in other cases where the water system does not meet minimum health standards. We have conducted public meetings in places like Fresno and Stockton in order to inform water suppliers, both private and public, how they can use the grant and loan program established by the Legislature to cope with DBCP and other kinds of contamination. I should add that the Legislature has placed on the ballot for this November a proposition which would increase the grant funding under the safe drinking water program to another $15 million because we're beginning to run into problems with regard to grants. Our third major role is in our
integrated pest management program. We are trying to reduce our own pesticide use, and we are developing and implementing a program to apply integrated pest management to our levee system, which is very important in providing flood protection in the central valley and in the state water project. Today, accepted practices may be needlessly harmful to the environment in terms of introducing toxic chemicals, and we are trying to develop an integrated pest management program which stresses developing alternative ways of managing vegetation and wildlife and still provide the same necessary degree of protection against floods and providing a water supply. I would like to also respond to your inquiry about the problems we're encountering. I guess like many other agencies we do have a problem with funding. The toxic substances investigation program is very expensive, as you've heard already. An example is the organic toxics; they require very time consuming testing. For example, in our laboratories a single test for EPA's priority pollutants of organic toxics and warm water sample costs $3,000.

CHAIRWOMAN TANNER: How many are on that list, the priority list?

MR. MERAL: Probably there's someone here who could answer that. My recollection is about nine or ten. They tend to be the most usual types of pollutants such as chloroform and so on, not the more exotics like DBCP.

CHAIRWOMAN TANNER: There is no testing of TCE?

MR. MERAL: I don't believe TCE is traditionally on the list. There's probably someone here in the audience who has the exact list, but they're the traditional kinds of things that people have tested for, for many years really. I mentioned that Proposition 9 on the ballot
this fall will provide, if it's passed, another $15 million in grants to local agencies. These have to be public agencies, but there is, of course, an additional problem that those who have caused some of these ground water problems are not participating in paying for the curing of them. Nevertheless, we believe it's important to move forward to provide safe drinking water supplies to the communities as quickly as possible. Another problem is perhaps a level of ignorance of the inherent dangers of toxic substances. We have run into some resistance to changing traditional ways of managing pests, for example, in our own project and even with our own people, but I think we're finding that people are more and more aware of the problem, and the Time Magazine article that has been referred to is going to help educate people. The more we can do in that regard, the better. In closing, I would say that our Department is probably not a major player in the question of regulating the toxic substances. I think our most important role is trying to provide a safe drinking water supply to people throughout the state whose supplies are presently inadequate, and we are quite active in that area. If there are any questions I would be quite happy to try to answer them.

ASSEMBLYMAN FENTON: Forget the big polluter for the moment. Do you have any idea what you do to the individuals who do the midnight dumping and things like that? I think in time, through Sally's doing and all that you're doing, you're probably going to get to the big ones, but the little ones, which I guess collectively add up to as much if not more trouble, do you have any idea as to what, if anything, can be done in that regard?

MR. MERAL: Well, in our Department's role we're not a regulating agency, and so I could only give you my personal opinion.
I think that my own experience and knowledge maybe comes more in the wildlife area where you're dealing always with individual violators, people who are poaching wildlife, setting gill nets, and I know something about that. The only thing I think that works in cases like that is a constant level of surveillance that's as high as you can afford, because there tends to be quite a turnover in these kinds of violators, wildlife poachers as well as probably people who dump toxic waste. It's hard to build a good background of who the likely violators are. I don't know what can be suggested other than a constant level of surveillance in areas where this kind of dumping is most likely. I think probably that you might get better information on that from regional boards. I know you have the state board, the State Water Resources Control Board, talk about this. The regional boards tend to be the ones that have to deal with the individual polluters, and you may want to address that question to some of those who have the worst problems, like the Central Valley Regional Board. It's a very difficult problem.

CHAIRWOMAN TANNER: Not only do we have to discover that the water is polluted or dumping has been done, but there has to be a form of policing.

MR. MERAL: That's right. I have to say that I have to return for a meeting on safe drinking water, in fact, but we have one of our staff people, Mr. Jim O'Brien, who is going to be here, and if questions do come up regarding our role he'll be prepared to answer them throughout the day.

CHAIRWOMAN TANNER: We have Commander Kynaston from the California Highway Patrol.
COMMANDER E. E. KYNASTON: Good morning, I'm Ed Kynaston. I'm Chief Commander of the Highway Patrol's Enforcement Services Division here in Sacramento, and good morning to the rest of the committee. It is a pleasure for my Department to have a representative appear before this distinguished committee to help familiarize the committee with the responsibilities of the Department as it relates to the transportation of toxic substances. With the committee's permission, I will cover the topics of my brief statement in the order Chairwoman Tanner listed them to me in her letter of August 29. That is a statement of my Department's responsibilities in the area of toxic substances, or hazardous materials as we more often refer to them, a summary of the programs we are administering and planning, as well as comments on problems we see facing the Department and the state in regard to highway transportation of these substances. Firstly, my Department's responsibilities in this area can be briefly stated as having regulatory authority for the highway transportation of hazardous materials, similar to that exercised by the Federal Department of Transportation; an enforcement responsibility for those same regulations, as well as other safety related vehicle operation and equipment laws. In this we exercise this regulatory authority in very close cooperation with the Federal Department of Transportation and, in fact, have adopted all of the federal regulations in total in the California laws relating to highway transportation. We, of course, also handle on scene highway emergencies and incidents relating to hazardous materials that occur on highways within our jurisdiction. Carrying out this responsibility and authority, the Department does administer a number of special programs in addition to our overall highway enforcement and safety responsibilities and I would like to go more specifically into those for you. Number one, we
have a motor carrier terminal inspection of trucking companies that transport hazardous materials. This program evaluates the ability of the carriers to comply with state and federal regulations in regard to the loading, transportation, compliance with requirements for bills of lading, shippers' requirements, packaging, containerization and the many other aspects of the hazardous materials regulations. Bear in mind, if you would, that this is going into the terminals, not on the highways; this is what we call an off-highway program. The program, in addition, evaluates the preventive vehicle maintenance of these carriers regarding safety equipment of those vehicles, and we take action to bring about compliance where sub-standard performance is noted. The administration has just recently expanded, through the budget process this year, this program by nine additional positions, which will be used to identify carrier terminals and evaluate expanded enforcement emphasis by the Department in this off-highway terminal inspection program. The second program is on the on-highway inspection and evaluation of heavy vehicles of all types, with special evaluation of those that transport hazardous materials, to assure that vehicles are properly placarded, and that the items are safely loaded and transported. This program also inspects equipment safety items of in-use vehicles. I think probably all of you have at one time or another seen our inspection facilities where the trucks are going through there, and this is a random sampling on highway of those vehicles, particularly focusing on hazardous material when it's appropriate. Thirdly, the department establishes and enforces special licensing for vehicles transporting explosives and specifies a required route for the transportation of the explosives, as well as an on-highway or in-route inspection process for those vehicles as well. Fourth, we have just
initiated a purchase request for 39 radiological monitors, which will be located at different locations of the state for the purpose of monitoring heavy vehicles passing through our inspection facilities and platform scales. In this program these monitors will be able to tell if the vehicles were emitting any type of an excessive radioactive emission that is excessive beyond the state standards. If that occurs we will be stopping those vehicles, advising the Department of Health; more specific monitoring will occur; the vehicles will either be tied up or, if they're found to be safe enough, they'll be allowed to go on after enforced reduction. In addition to the above, the Department in January will be commencing a new legislatively directed program to annually inspect trucks and cargo containers utilized for the transportation of hazardous waste. This is in cooperation with the Department of Public Health, which is making new regulations that my Department will utilize in the inspection of these vehicles. A similar program which will be started, which was authored by AB 2747, passed in this session, will be for my Department, again in cooperation with the Department of Health, to establish routes for the transportation of radioactive material. As you can see, my Department is actively involved and concerned with the safe transportation of toxic substances on the state's highways. Obviously, that involvement results in problems and concerns. I believe, however, one of the most significant of those is a problem which may have prompted the formation of this special committee, that is, just trying to determine what the status of safety in highway transportation of toxic materials, or hazardous materials if you will, really is. This is particularly acute as it relates to evaluating public input, especially in times when a newsworthy incident such as the recent paint compound spill on the Golden Gate Bridge, which
was later found not to even be a hazardous or toxic material, has occurred. Whenever those situations arise, we, as many other public agencies, are literally deluged by comments and concern from the public, particularly inquiries from the media. It is very difficult in the face of such concern and inquiry not to overreact and try to resolve the problem or interest by adopting some expedient regulation. My Department must continually remind itself to get the facts, and we can only act in those areas where there is a clear indication of need. We must also remind ourselves that our experience indicates the tremendous ton-mile transportation of hazardous materials, which you've heard commented on here several times earlier, that occurs in California is relatively safe when you consider the total volume. Actually, most of the recent major hazardous materials incidents that have occurred and have received so much media publicity are probably in railway or industrial modes. We, of course, know the potential for individual highway accident and catastrophe is certainly there, and must be guarded against at all times. In attempting to evaluate this situation, we have another problem, and that is of having adequate information so that we know just what is going on out there. We have several programs within the Department for intra-departmental reporting as well, as there are requirements on these various carriers that if they have a spill or are involved in an accident, they must make reports to us. I think those are less than satisfactory.

CHAIRWOMAN TANNER: I have a couple of questions. If there is a spill and you suspect that it's toxic, who cleans that spill, and isn't the driver or isn't whoever's hauling that material responsible to know whether or not it's a toxic substance? How do you know and how
do you prevent the people who are cleaning the spill from becoming contaminated?

COMMANDER KYNASTON: As you've heard here today, in most of these areas there are many different agencies that are involved and have responsibilities. Initially, the first responder is usually a peace officer. I'm saying that in a broader sense than the highway patrol because we're talking about the whole state, and it may be on some highway not within the responsibility of the Department. But let's say the Highway Patrol or peace officer responds and there is an accident. If the driver is conscious, is able to talk, and if he and his company are complying with the hazardous materials transporting regulations, they will have with them bills of lading which indicate what the product is. In addition to that, the vehicle again, assuming they're properly transporting, will have placarding on the exterior of the vehicle and the individual containers of hazardous materials will be labeled in such a way as to advise of the hazards. Assuming all those good things are there, the officer can determine what he has and will then take action depending upon what the spill is, and, if necessary, call in the resources available to go about cleanup. Often, however, we do find that in particularly with a fairly severe accident, or if there's fire, then maybe we can't even get close enough to determine what it is. Or sometimes we have vehicles which are improperly loaded, placarded, etc. In those cases, and this has been a very significant problem for our Department and it is for other peace officers and fire department people, is to treat an accident that is suspect in any way as though it is a hazardous material accident for personal protection, and protection of the public obviously.

CHAIRWOMAN TANNER: Do you inspect for that? I mean, do you
stop a truck and inspect, do you check to see if they have the placards and labeling?

COMMANDER KYNASTON: Yes, that is one of the things, particularly in the on-highway program, that we do to assure that just monitoring the traffic in use out there that it is occurring. But given the situation I was just describing, if it is found that there is a hazardous material, and it is in fact on the highway, we will then call resources in. Caltrans has on the state highways a responsibility for clean-up. We have some management responsibilities and, jointly with Caltrans, they will come in if it's something that they can handle, and, by the way, their people do have identification teams with proper protective clothing, self-breathing apparatuses type of thing. More than likely, though, if it is a spill such as the one that just occurred on Interstate 5 that was in the news here the last two days, they will have to call in an outside agency, such as IT Corporation, that is equipped both in the sense of protecting their people, they have the protective clothing, and they have the equipment to go in, such as vacuum tank vehicles, and neutralize this material, suck it up and take it off to one of the waste disposal dumps that we were talking about here earlier.

ASSEMBLYMAN ELLIS: How often does your random inspection turn up violations?

COMMANDER KYNASTON: I can't tell you in terms of time. We find probably, I guess I would have to say hundreds of violations a year in both the on and the off-highway programs. That's probably as close as I can come to it actually.

ASSEMBLYMAN ELLIS: And what's the penalty for the violation?

COMMANDER KYNASTON: Well, penalties can range from, at the
most, a misdemeanor for these things, unless there is something else which amounts to a catastrophic type of action where some fatality occurs. Then you possibly could go into of course more serious action.

ASSEMBLYMAN FENTON: Are there specific regulations for the type of vehicle that transports hazardous materials?

COMMANDER KYNASTON: There are no regulations beyond those relating to the product, except for the same safety regulations that are there for all vehicles, in other words, relating to brakes and those kinds of things, with the exception of the vehicles that transport flammables in tanks. There are Fire Marshall regulations relating to those tanks. The State Department of Health is making regulations now for vehicles which transport hazardous waste, which I mentioned we will be enforcing here as soon as those are developed.

ASSEMBLYMAN FENTON: How about if I have a business and I have hazardous materials and we transport it with my truck? I imagine there are businesses that do that, aren't there? What precautions do you have in that type of incident?

COMMANDER KYNASTON: There are no special requirements for the vehicle as far as the construction and design goes, except of course there are general regulations, as there are for all types of products, that the vehicle has to be able to safely transport a container product. There are for the product itself containerization requirements, extensive requirements on that as to what type of packaging, what types of containers and those kinds of things.

ASSEMBLYMAN FENTON: Now, the inspection that you are talking about, your annual inspection or whatever it is of carriers that handle that -- and then your inspection stations and your spot inspections -- I presumably could be a carrier and I could transport some, I imagine,
and never hit your safety stations or your inspections and never get spot checked too, couldn't I?

COMMANDER KYNASTON: That is possible, yes.

ASSEMBLYMAN FENTON: Are you looking forward to some recommendation that these people who are in the business of transporting it have each load inspected? Or do you know, or is not the public interest such that the cost is weighing it again...the public interest as opposed to the problem of putting it on business...you understand my question?

COMMANDER KYNASTON: Yes, I understand what you are saying exactly, and I think you have gotten to the heart of the matter in your last comment there, is that I guess it depends on what level of safety we want. I think we have gotten into some areas, like school bus transportation as an example, where we have, the Legislature has, asked for an extra level of safety, and we have a different level of inspection of those vehicles and of the drivers. They have to be specially tested -- we've done them for the farm labor vehicles.

ASSEMBLYMAN FENTON: That was my bill, so I know. Let me ask you; would you recommend in this type of deal, in time, that the same type of deal, because of the same type of examination and licensing and requirement for drivers, as well as vehicles, take place -- because of the hazardous and the potential involved?

COMMANDER KYNASTON: I think that is an area that should be evaluated as far as the inspection of each load before it left -- I don't think that would be humanly possible; I don't think we could have enough -- there is so much -- there are probably some 10,000 to 11,000 carriers that transport hazardous materials, and then all the
rest, probably another 30,000 companies that transport hazardous materials at one time or another. So I don't believe that with that volume of product you could, across the board, have all hazardous materials inspected. You might want to focus in some areas. As an example, we do license explosive carriers; we do specify the routes for those. Radioactive carriers will be specified to drive or be directed to drive on a certain route.

ASSEMBLYMAN FENTON: You don't do that yet with hazardous materials?

COMMANDER KYNASTON: No, I think again the total volume of hazardous materials now would be virtually impossible to specify routes for all types of hazardous materials.

ASSEMBLYMAN FENTON: Now, when an explosive truck is on the highway, it is really signed and placarded and that and it's human nature that you stay away from it. I have never seen anything with all the hazardous materials. Incidentally, I have never seen a truck that had any placarding that you talk about that ever called it to my attention.

COMMANDER KYNASTON: It is a diamond shaped symbol -- it will be on the rear and sides and it is about a foot across, and there are a number out there.

ASSEMBLYMAN FENTON: What does it say? Just has the symbol?

COMMANDER KYNASTON: No, it will describe the type of material that is in -- there are different symbols and different words for different types of materials that will say poison, explosives or a variety of things describing the various types of products that may be carried.
ASSEMBLYMAN FENTON: Is there a speed limit on the vehicle that carries explosives - I imagine the same as ours?

COMMANDER KYNASTON: Same as ours. Right.

ASSEMBLYMAN FENTON: Of course, depending on the type of vehicle whether they stay to the right -- so there is nothing special for those particular vehicles?

COMMANDER KYNASTON: The only thing that is special is that there is a certain route that they have to go on; there are certain stopping places and, again, I am talking about explosive vehicles. For hazardous materials in general there is not. But again, it is a broad spectrum of things that we are dealing with in this, and it is so broad and it is so much a part of our everyday life that it would be almost impossible to do that. One thing we might do is look into the desirability of licensing people who transport hazardous materials. This would do 2 things -- it would give us the ability to evaluate their safety and it would also have them come to a state agency, assuming it would be the Highway Patrol, so we could just find out who these are. Right now there is no one that they have to get permission to transport hazardous materials from.

ASSEMBLYMAN FENTON: Do you have statistics on spills, whether they are caused by the condition of the vehicle itself, that is, the brakes or anything like that or some other driver? Do you have anything on that as yet, on all these spills, and I see that they are getting more and more of the spills, incidentally?

COMMANDER KYNASTON: Yes, I think, and this is what I was talking about here earlier, I am not satisfied with the internal reporting process that we have had. It does not give us good enough information because the problem with it is we don't get all of the
reports and so, therefore, you are not able to evaluate what percentage of the problem is caused by this or that. We are focusing on those things which seem to be the more frequent and seem to be the most critical when they do happen. In February of this last year, this year, we initiated a study of tank vehicle accidents. We are 6 months into that study now and this is giving us a much better idea of what the importance of those tank vehicle accidents, such as the petroleum transporters, and what that means in terms of safety -- just how critical are they and who is or what is causing the accident, and now after 6 months of that we are beginning to get a feel for that.

ASSEMBLYMAN FENTON: One last question -- is one of the aspects you are looking into is seeing whether lowering, for instance, the speed limit for that type of vehicle might not be more conducive to better safety and less accidents? Are you also looking into that aspect, or is that not one of your things?

COMMANDER KYNASTON: Not specifically speed, but what we are looking at, again in this report dealing with the tank vehicles, is why is the accident occurring? And we are finding that a large number of these, probably a higher number of these, the general truck population, accidents are caused by the drivers. And then we will be looking at what they are doing and that will give us some of the information I think you're after.

I wanted to say that I appreciate having this opportunity and if there are any other questions that I can answer for you I will be pleased to do that, or any time in the future I will be pleased to help you.

CHAIRWOMAN TANNER: Thank you very much. Our next witness
will be Mr. Jim Watkins from the Office of Emergency Services.

MR. JIM WATKINS: Good morning, my name is Jim Watkins. I am Chief for the Planning Division of the Office of Emergency Services. I would like to start out by giving you a little background on what it is that our office does and then try to relate that to the current problem. We are a part of the Governor's Office and we have responsibility for coordinating state response to all types of emergencies. Part of our authority includes the authority to task other state agencies to do specific functions in the event of an emergency. Part of our authority includes the authority to task other state agencies to do specific functions in the event of an emergency. We also act as the notification point for the National Warning System for the State of California and are the central point for the California Warning System, which enable us to communicate directly with 35 counties simultaneously simply by lifting a telephone. As a consequence of that we have a warning center which is staffed on a 24 hour a day basis. Now to apply all of that background material to the problem at hand, SB 183, Nejedly's bill, which the Governor recently signed into law and goes into effect on the first of January, requires that we develop a response plan for toxic disasters. We are going to be working with the CHP and a variety of state agencies to develop such a plan and we are currently working on a draft of that, just trying to sketch in who does what and when. The difficulty that we are having in creating such a plan is the difficulty in relating someone's day-to-day regulatory responsibilities with their capability to respond to an emergency and their authority on the scene of an emergency. To work out the intricacies of that when there are some 13 or so state
agencies involved is rather complex and not an easily solved problem.

I would like to add that we have been working on the problem for some time. We were putting in budget change proposals for hazardous materials specialists to do this planning starting in about 1972 -- we finally got one through. The objectives of the plan are, first of all, to create a notification scheme so that when we find out about an emergency of any sort it gets communicated to the proper people. That is not as easy as it sounds. I am going to use a horrible example that happened recently: At 2:00 in the morning we got a call from the Oakland Tribune that there was white powder on the paper and some of the employees were getting sick. Well, our warning controller has to find somebody that is going to respond to that and, since it was a health problem, he started with the Health Department. The first person he called is our normal contact, Dr. Bill Nesbitt. Dr. Nesbitt is responsible for disaster medical planning. Well, this was clearly not a disaster but it was a health problem, so the warning controller went on in the list and he next called Dr. Harvey Collins of the Hazardous Waste Section. Well, it wasn't a hazardous waste even though it was hazardous, so it really wasn't his job either. Eventually we got around to the point that we called the Department of Industrial Relations and Cal OSHA. So, it is not something that one can simply go "Aha? It is this kind of problem; we'll give it to this agency," and that is what the plan is going to be all about, and the notification scheme.

CHAIRWOMAN TANNER: I think that that kind of plan would be valuable whether it is an emergency or not, in other words, just a problem that has come up.

MR. WATKINS: Well, it is difficult to distinguish between
incident, accident, emergency and disaster -- there are shades all throughout there. We do have right now a telephone which is paid for by State Lands. It is an oil spill phone and it is an 800 number. It is being used right now to report some spills of hazardous materials. We get reports of oil spills at the rate of about 2 per day and reports of hazardous materials incidents at a rate of about 1 every other day, so there is a system there already in place. The idea that we will be trying to come up with is a way of getting that system to be universally known and used.

The next thing that we would like to do is to improve the state response by specifically defining the agencies, emergency responsibilities, both the agencies that have primary response roles and those agencies which must provide support. As an example, we have been working with the Department of Industrial Relations to come up with a mechanism by which they may give some technical advice directly to the scene without responding themselves -- through some mechanism by which they call in to us or we call them and we patch them directly to somebody on the scene. To implement all of this is going to require training for the state agency people, training not only in response -- what to do at the scene -- but also in coordination so that they begin to know who it is they have to interact with and some exercises or drills in which we practice those management techniques. We will be working with all of the state agencies to do that.

CHAIRWOMAN TANNER: Thank you very much. Well, I thought perhaps we had planned on hearing too much testimony from too many witnesses and I thought we wouldn't get through, but we are moving along nicely -- we are right on time, as a matter of fact. Mr. Pat
McLaughlin, the Office of State Fire Marshal, will be our next witness.

MR. PAT MCLAUGHLIN: Good morning Madame Chairman and subcommittee members, I am Pat McLaughlin from the State Fire Marshal's Office. We have a very limited role in the area of toxic substances, for the most part -- we are one of the support agencies that OES was referring to. In this particular area, we are going to be involved in 2 things. The Governor, as you have been made aware of by Mr. Weiner, has developed a rather broad program this year and our role in that program is to present that training that OES is talking about to the 75,000 individuals who are emergency responders in the state. What we will be doing is developing the program this year so that responders can take care of those kinds of issues as to whom to call, how to call them, how to react to the incident. We will be putting together training teams of four members. One member will be from the fire service, one from law enforcement, one from Cal OSHA, and then one from either Fish and Game or Caltrans. Our training modulars will basically be an awareness program for everybody, and then will develop specific training for those agencies that have specific responsibility and we will be putting together a command training system.

The other area where we do have responsibility was alluded to by the gentleman from Highway Patrol. We have been regulating cargo tanks that transport flammable liquids since 1962. There are 11,000 of those tanks on the road today.

CHAIRWOMAN TANNER: Transporting what?

MR. MCLAUGHLIN: Flammable and combustible liquids. We have both the responsibility of developing the standards that apply to these tanks and enforcing those standards. Basically, what we are
looking at is the design of the tank as it is constructed. We review the plans and then we look at the maintenance, safety systems that are required, in relation to fire safety. As a matter of fact, last year those tanks that transported hazardous substances that were flammable were removed from our jurisdiction and placed under the Highway Patrol to better coordinate the whole hazardous substance issue, and that's all our responsibility. I'll respond to any questions you have.

CHAIRWOMAN TANNER: If there is an accident and the fire department is on the scene, do you do things prior to that to instruct the fire departments as to how to handle those cases?

MR. MCLAUGHLIN: Presently we do have a training system and that's why we were chosen to provide this training -- where we do have courses in pesticide hazard control, those kinds of things. We don't have a statewide hazardous material training program as yet, and that is what we will be developing in conjunction with OES and these other agencies that have responsibilities. That is, in fact, the main concern of our involvement in this area.

CHAIRWOMAN TANNER: Thank you very much. Mr. Joe Thomas, Chief of the Department of Transportation, Division of Maintenance.

MR. JOE THOMAS: My name is Eugene B. Thomas. I am the Chief of the Division of Maintenance for Caltrans. Pursuant to the Streets and Highways Code Section 27 of the Government Code, Section 14121, Caltrans is responsible for maintaining all state highways in a safe and usable condition. One of the things that maintaining the state highway means is that all materials deposited or spilled within the highway right-of-way must be removed. In connection with
the removal of unidentified or toxic substances, three basic policies have been established. All spilled materials will be treated as hazardous until otherwise proven. All spilled materials must be removed promptly to minimize delay and inconvenience to the public and to minimize the potential for spill related traffic accidents. All actions will provide the highest possible level of safety to the public, our employees and to the environment. Numerous steps have been taken to implement these policies. Over 4,000 of our road and landscape field personnel have received awareness training. This 2 to 3 hour course is designed to instill in each individual a sensitivity to the potential dangers of unidentified and toxic substances, and to give them the basics of what to do when a spill is encountered. A full time 4-person chemical spill identification team has been trained and established in each of our 67 maintenance territories. Collectively, they provide coverage for all state highways in California. Each team member attended an in depth 2-day training course. All teams are equipped with self-contained pressure demand breathing apparatus, full protective clothing and miscellaneous items to assist in containing spilled materials. The total cost of training and equipping these personnel exceeded $300,000 during the 1979-80 fiscal year alone.

CHAIRWOMAN TANNER: What is the total number of personnel that was trained and equipped?

MR. THOMAS: We have 67, 4-person teams. Their full time work is not chemical spill and identification; they are full time employees who are trained and are on the job throughout the state. On-going service contracts have been executed with 6 commercial firms
for identification, removal and disposal of unidentified or toxic substances. Collectively, these firms provide statewide coverage 24 hours a day, every day of the year. They are called to spill sites whenever we are unable to identify the substance, or whenever we have identified the substance but determine that our personnel cannot safely remove it. The removal of spilled loads from state highways right-of-way is a major workload for the Department. During the recent past, spills have averaged in excess of 2,000 per year for all types of commodities or materials. Fortunately, only a portion of these involve unidentified or toxic substances. During the 1978-79 fiscal year, 248 of these spills were in the toxic category. This grew to 595 for the 1979-80 fiscal year, and that increase is probably due in a large part to our greater awareness of the potential dangers of any of these chemical spills.

The following items are listed as a responsibility of the first person on the scene of the spill: one, provide traffic control; two, provide for the public, employee and environmental safety; and three, notify the local highway superintendent's office. Upon notification, that superintendent's office dispatches the identification team members to the site of the accident. If investigation by this team indicates it is appropriate, a phone call to Chemtrec will be made. The duties of the identification team......

CHAIRWOMAN TANNER: To whom is that?
MR. THOMAS: To Chemtrec. I will explain that in just a moment. If investigation by this team indicates it is appropriate, a phone call to Chemtrec will be made. The duties of the identification team are to identify the substance if possible, to contain it if possible, and to provide the superintendent's office with all
the necessary information. If the spilled material cannot be identified, then Chemtrec cannot assist us and one of our commercial cleanup firms is called in. If the toxicity of the spilled substance is determined to be within the ability of our maintenance employees to handle safely, our crews do the cleanup. If not, depending on the size of this spill, it would be cleaned up by the commercial identification team or by a chemical waste removal firm. If the transportation or manufacturer is known and is available within reasonable time, they may implement the identification and cleanup and disposal. If they are not available, we do it ourselves.

As was mentioned, Caltrans employees use the information available from Chemtrec -- this is the Chemical Transportation Emergency Center. Chemtrec consists of a 24 hour communications center located in Washington, D.C. They can be called with a toll free number at any time. The Manufacturing Chemists Association organized Chemtrec to provide information concerning removal of chemical involved in transportation accidents. As Chemtrec can only help if a container with the name of the material is available to the Caltrans crews, or if the transporting vehicle is still at the site, our greatest identification problem is the spill of an unknown substance without a container to identify the material. These unidentified spill materials must be identified by calling in a commercial firm that takes samples and identifies what the materials are. If the material is toxic, the commercial firm will contain, collect and haul the material to the appropriate waste disposal site. Did I make it clear, the purpose of Chemtrec?
CHAIRWOMAN TANNER: How quickly can you determine that?

MR. THOMAS: It takes a long time and that's the famous Bay Bridge -- a few weeks ago there was a problem there -- it depends of course on the type of material -- but it has to go to a chemist for analysis and if it is something rare or an unusual type of thing, it takes a long time.

CHAIRWOMAN TANNER: And all this time the freeway is tied up?

MR. THOMAS: Did I make it clear what Chemtrec does for us? If we know what the material is, they can identify the real hazards to it and how we can handle it.

CHAIRWOMAN TANNER: And this is a federally controlled...

MR. THOMAS: Yes, by the Manufacturing Chemists Association. But if we don't know what the material is, they cannot help us at all. The Department believes that the number and severity of chemical spills on the highways could be reduced by requiring manufacturers of these materials to provide packaging that would preclude breakage and spillage when dropped from the bed of a truck. Now, one of our biggest problems is the individual sack or can of material that spills off a vehicle. The sack breaks and is blown away and then we don't know what is left. Also desirable are increased compliance with the regulations to properly secure the container in the transporting vehicles. All vehicles that are transporting hazardous material should be required to have placards on the front, back and sides of the vehicle, regardless of the amount of materials being transported.

CHAIRWOMAN TANNER: You say "should be"...are they required?
MR. THOMAS: Current placarding requirements are that hazardous materials only need to be placarded if there is more than a thousand pounds or more than 110 gallons being carried in the individual vehicle. So, less than those quantities are not placarded. It's the law.

ASSEMBLYMAN ELLIS: What is the rationale behind that?

MR. THOMAS: I really cannot tell you that. I suppose the rationale is the individual farmer comes into town, for instance, and picks up two sacks of insecticide or pesticide and goes back to his field. I think that would be the reason for it. Our experience is that the majority of the spills on state highways are less than 1,000 lbs. or 110 gallons. As mentioned before, a large number of the spills of material on highways are found without any containers nearby to enable Caltrans employees to identify the materials. If hazardous materials had an inert color added to show the degree of hazard to humans, the cleanup of the materials and the non-hazardous materials could be done with greater safety. In other words, if there were some way to color all of these compounds, red for instance, to indicate that they were toxic, then our crew would at least know to stay back and call in the proper disposal outfit. But the way it is now, so many of them are white or grey there is no way to tell by the appearance.

There could be considerable monetary savings to the state and other public agencies, and to the public, as there would be less closing of highway traffic lanes for spilled materials that would have otherwise been found to be non-hazardous. We also believe that a fund should be established to reimburse involved agencies.
for all costs involved in removal of unidentified or toxic materials spilled on California's roads. However, the spiller does pay when we can catch him, but...where we cannot identify the transporter, we can't do anything about it.

ASSEMBLYMAN ELLIS: But if you know who it is, then they pay the full cost.

MR. THOMAS: They do; we go right to them and usually the insurance company, and these costs can be extensive. In addition to the changes which we have discussed here that are really outside the authority of our department, we are currently reviewing our entire process. We are reviewing all the time and doing additional training, and we implement whatever changes we find appropriate as time goes on.

ASSEMBLYMAN ELLIS: What percentage of spills you get are known? What percent do you know who the spiller was?

MR. THOMAS: I can't really tell you that. Any large spills we know because the truck is usually there; it's the smaller ones...I am afraid offhand I can't give you those numbers.

ASSEMBLYMAN ELLIS: Were the small spills significant?

MR. THOMAS: They can be significant in terms of our cost.

ASSEMBLYMAN ELLIS: I mean the numbers.

MR. THOMAS: Oh, yes, they are.

CHAIRWOMAN TANNER: If a vehicle was dripping toxic material along the highway for miles and miles...what would happen in that case?

MR. THOMAS: That's a good question...we did have an event like that in Visalia or Lamore not too long ago when there was a puddle of material found on the road and it turned out to be
a very dangerous insecticide -- I think it was headed for the
Lamore Naval Air Base. One of our people happened to come upon the
site. Because there was a puddle in an unusual place and didn't
appear to be water to him, he took the proper steps and we identified
it, somehow or other through our process, as being a hazardous
material. They finally, I guess, traced down the truck that had
spilled it. There had been a bakery delivery truck which had driven
through the same area and splashed through the material. We were
able to track that down, and I guess they disposed of them, the
contents and so forth, but those kinds of things do happen and it's
often impossible, may even go unnoticed.

CHAIRWOMAN TANNER: That's the purpose of the vehicle
inspection, I would guess.

MR. THOMAS: Right, but, unfortunately, I don't believe
that's the CHP's authority, inspection and so forth of vehicles,
and I don't believe that there is any conceivable way that they
can know what's in every vehicle that goes down the road, so that
inspection is difficult. The specific vehicles are the big tank
trucks and that sort of thing that are solely for these types of
materials. Yes, the inspection will take care of those.

CHAIRWOMAN TANNER: Thank you very much. We have one
other person listed to speak before lunch, John Hagerty from the
Executive Office of the Solid Waste Management Board.

MR. JOHN HAGERTY: I'm John Hagerty, Executive Officer of
the Solid Waste Management Board. I would like to thank you for
the opportunity for us to participate in this hearing today. The
Solid Waste Management Board has, over the years, since they've
been established in 1972, had a historical interest in the handling of hazardous waste. However, in 1979, a bill by Senator Nimmo, SB 2031, clarified the relationship between the Department of Health Services and our agency and principally assigned the full responsibility for hazardous waste management to the Department. Nevertheless, there still is a close relationship and involvement between some of our programs and some of the programs they have responsibility for. And there are a couple of those areas that I would like to briefly highlight for you today for your information. You've heard mention by some of the other speakers the Resource Conservation Recovery Act of 1977, which is a federal program that provides grant money to California for both hazardous and non-hazardous waste management programs. When the state originally got involved in that program, the Solid Waste Management Board was designated the lead agency for that grant. We still perform that role. We don't really play a control over the Department of Health Service activity, but the money flows through our organization to them for the federal funding of their hazardous waste management program.

CHAIRWOMAN TANNER: How does that work?

MR. HAGERTY: The Resource Conservation Recovery Act provides a federal grant to the state annually. The grant provides funding for non-hazardous waste management activities, which we have responsibility for, and for hazardous waste management activities, which the Department of Health Services has responsibility for. There's a single coordinator grant; we're the principal grantee, although they pretty independently expend the dollars for hazardous waste management activity. I guess I am really stating that's more of a point of our coordination more than any other point. One point, and I'm not sure whether any other speaker has brought it out --
I think they referred to it -- is that the majority of waste sites in California that take hazardous waste also take solid waste. Not only are they under permit from the Department of Health Services, Dr. Collins was talking about the number of different permits earlier for certain hazardous waste sites, but those that take solid waste as well are also under permit from the local enforcement agency and the state, a single solid waste permit also, so we do have, while we don't control hazardous wastes through that permit, we do have areas of mutual interest since it's the same site. The same facility you talked about earlier, Palos Verdes, they are under permit from us also. So, we both have a mutual interest in what goes on at that waste disposal site, the issue that, even though we don't have principal responsibility, but an issue that's still brought to the board's attention, and perhaps that's because of the fact that we have a broad representation on the board, including industry and local government officials, or perhaps it's because we've had hazardous waste responsibility in the past. Whatever the reason, it's still the Board, our staff. The Board itself is still criticized for not providing adequate hazardous waste disposal, even though that's not our role, but because of our interest in relationship the Board is concerned about it, concerned about the Los Angeles situation. At least at our next Board meeting in October we'll be holding a workshop during the session to see if, at least from our prospective, we can make some suggestions or come up with some ideas that may help in this particular situation. Dr. Collins from the Department of Health Services serves as their department's exofficio representative on our Board, so he would be participating in those discussions.
also. One of the things I would like to leave with you when I'm through is a copy of a report that was made to the Legislature in August of 1976. It was a result of an Assembly Concurrent Resolution. The Board was asked to do a study on the disposal of environmentally dangerous waste in California. One of the things I think you will find interesting as you look at it, in a sense it's disappointing and it's still very current in a lot of respects, there's a lot of ideas in there that seem as if the report could have been issued today. I think, and it's a report that was done in combination with a lot of state agencies, I think there's still some very interesting information in there. Two last points I would like to make. One of the Board's greatest concerns, I think, when Senate Bill 2031 passed and clarified the hazardous waste responsibility, was that we might lose what I think we were gaining, which was a coordinated solid waste management planning approach. Under our law, each county is required to develop a county solid waste management plan, and in fact had. When we had full responsibility for that, an element of that plan was hazardous waste management. Still, I think the Department of Health Services is still trying to work with those counties to get an element included as part of their planning process, but I think we have clearly lost something in the coordination and the development of those plans and those programs. To my knowledge, that's really the only current vehicle for local government planning with both cities and counties, advisory groups and whatever to really focus on solid waste management planning, disposal planning. But, I think to the extent that this committee gets involved with longer term objectives and relationships, that's an area I would hope and
encourage you to look at more closely. Somehow that might become a
vehicle to help facilitate additional planning efforts and activities.
The last thing I would just like to do is to reiterate to some
extent what Dr. Collins and Peter Weiner said about the need to
encourage recycling, reuse of hazardous waste. From our Board's
orientation to supporting recycling and resource recovery programs,
we continually get contacted by people who have ideas and thoughts
and interests in developing resource recovery and recycling
programs for hazardous waste substances. Again, that's not our
primary responsibility. We try and work with the Department of
Health Services and encourage these individuals to pursue it with
the Department of Health Services, and I believe they are, but
again, to the extent that that can be expanded, it's I think the
Board's feeling that clearly would reduce the hazardous waste
disposal problem. That's just briefly what I wanted to mention.
I would be glad to answer any questions.

CHAIRWOMAN TANNER: I'm on this Palos Verdes thing that
Mr. Felando mentioned earlier. Now, if a citizen noticed that this
water was coming up into his or her backyard, to whom should this
person report the problem?

MR. HAGERTY: It's really interesting. I went back to the
office between hearing the first speaker and coming back, and that's
one point I checked on because I anticipated you might ask for it.
Our enforcement staff would be the people principally involved in
that issue. They have been involved with the Palos Verdes landfill,
but they had not heard of that particular incident. However, we
would be very sensitive to that, and we're interested in pursuing
it. Yes, and we have been involved; we've worked with a local
enforcement agency, sanitation district.
ASSEMBLYMAN FELANDO: This was first reported to the sanitation district better than two years ago. They've been passing the buck.

MR. HAGERTY: Well, we'd be as interested in pursuing it. Most of our enforcement effort is carried on by a local agency here, in Los Angeles Health Department or the local City Public Works Departments.

ASSEMBLYMAN FELANDO: In fact, these people at their own expense collected some of this liquid and sent it out and had it analyzed.

MR. HAGERTY: I guess it's news to us, which is kind of a surprise. I'm surprised we haven't been involved in it; we're anxious to look at it more closely.

ASSEMBLYMAN FELANDO: It's not really a surprise because in the last six to eight weeks Supervisor Burke has become really involved with that whole situation down in Palos Verdes and she has, they have not been, I know I'm calling somebody a liar, they have stretched the truth somewhat, the sanitation district has, and she caught them cold on it, so they're in trouble; they're not her favorite people at the present. We will join with the Department of Health Services and the Water Board and jointly look into that to see if there is a problem and, if so, what can be done about it.

ASSEMBLYMAN FELANDO: Before it's over I think we're going to have some fun down there.

MR. HAGERTY: That's one way to look at it.

CHAIRWOMAN TANNER: Thank you very much. I think we will break for lunch and we will come back at 1:00. I think that we have all found this very interesting. There is much that members
of the committee have to learn, and hopefully we can do something constructive in the future.

(AFTER LUNCH)

CHAIRWOMAN TANNER: Good afternoon. We'll start off with Mr. Dan Dooley, the Chief Deputy of the Department of Food and Agriculture.

MR. DAN DOOLEY: I'll begin with a brief overview of what our Department does in the way of regulating pesticides, and try to give you some sense of the interactions we have with various levels of government, both federal and county, and some of the changes that have occurred in recent months, and even more over the last couple of years, and try to indicate to you some of the directions that the Department is going. In 1976 our Department pesticide regulatory effort was composed of about 50 employees; in this year's budget we have allocated 191 positions, which is a reflection of the changes in the regulatory effort that we have been making in the area of pesticide regulation. During that course of time, as many of you may be aware, we have been struggling in some cases to develop a program that is in compliance with the California Environmental Quality Act. That process was achieved or reached fruition last December and was funded by the Legislature through the recent budget cycle. I might mention that during the course of those last four years we have created a new division of pest management environmental protection and worker health and safety, which has consolidated all of the various functions within the Department relating to pesticide regulation. That division is composed of four units, which I would like to explain a little bit about because I
think it's a reflection of the character of the program. The first unit is the registration and agriculture productivity unit and it also, its name reflects the first step in our regulatory process, which is to evaluate proposed applications for the registration of pesticide products in California. We presently have in the current budget 53 positions and 1.7 million dollars budgeted to that function. That is a substantial increase over the prior year funding because of changes in the regulatory structure which require chemical companies wishing to market products here to supply considerably more data and information on the impacts of pesticides, both to humans and the environment, prior to their being registered. The new staff is composed, in large part, of scientists and technical people to evaluate that data and to help us reach decisions on whether or not a product can safely be utilized in California. They also work on reevaluating products that are currently registered in California where one of our reevaluation criteria is triggered, either through some incident or some new scientific information which indicates that something not previously known merits a further look at that product. A second unit is the Pesticide Use Enforcement Unit. There are 48 positions in that unit and a $3 million budget. In addition, we have about 135 work-years that are under our supervision through county agricultural commissioners who work at the field level in the day to day enforcement of pesticide use regulations and restrictions. Our enforcement staff's primary role is to supervise the activities of the county commissioners and make sure that there is consistency in enforcement of laws and regulations throughout the state. That unit also is responsible for monitoring residues of pesticides on the crops.
that go through food and produce that goes through wholesale markets in California, and for conducting retail market surveys for pesticide residues. We monitor about...

CHAIRWOMAN TANNER: Can I ask a question? About how many pesticides are registered now?

MR. DOOLEY: Products, they are registered about 10,000 in California. There are about 30,000 roughly registered by EPA, so we register roughly 1/3 of the number that are registered nationally, and of those there are about, I believe, 1,500 active ingredients which are specific chemicals, and those may be formulated into different products, which bring the total registered products up to 10,000. We sample about 8,000 or analyze about 8,000 samples of produce during the course of the year to determine the present residues, and that is conducted under the Use Enforcement Unit. They also license pest control operators, people who apply pesticides, people who sell pesticides, and people who provide advice to farmers on how to use pesticides, as one of their functions. A third unit, and one that has been growing dramatically in recent years, is our Worker Health and Safety Unit. There are currently 26 positions there and a million and a half dollars, that's 100% increase over the prior year. That is a unit composed of doctors and toxicologists and people to assist in conducting worker health and safety studies to determine the consequences of pesticide exposure on workers in particular, the public health also. They evaluate studies and literature and make recommendations on whether or not a product ought to be registered in California because of its impact or potential impact on workers. They also do reentry studies, which are to
determine when and whether workers can safely reenter a field after a pesticide is applied, as one of their principal functions. Another function that they are providing, and one that's becoming increasingly important, is to provide some training and information exchange with county medical associations, emergency room physicians and so forth, who may encounter victims of pesticide exposure, to make sure that there is adequate information on diagnosing symptoms of pesticide illness or exposure because in many cases the symptoms of pesticide exposure are symptoms that are common to other kinds of illnesses. There are certain bits of information that our physicians who are familiar with pesticide exposures and so forth can provide to those people to assist and properly and quickly diagnose the problem. A fourth unit that we have, the final unit, is the Environmental Monitoring of the Pest Management Unit, and there are 38 positions there and about $3\frac{1}{2}$ million. This unit has principal responsibility for monitoring the development of new pest control technologies, integrated pest management, biological control. They've been recently developing for the first time a pest management guide, which analyzes the pest control measures available for a particular crop, and try to put that information into a form useful to growers and advisors who are determining how to control particular pest problems.

CHAIRWOMAN TANNER: Does this have something to do with like, I think it was Dr. Collins who mentioned something other than pesticides?

MR. DOOLEY: Yes, it may, and it may also deal with trying to provide better ways of using pesticides where there are not other alternatives. One of the functions this unit also provides is to conduct and administer our department's biological
control program, where they actually raise biological agents which are used in some of our own pest control and eradication work, and that program has been increasing along with others. They also supervise the allocation of some of our research, contract research dollars for integrated pest management activities. For example, we have $100,000 in this year's budget, $50,000 for research and control of pest problems in processing tomatoes, which is a crop that requires significant pesticide use, the objective being trying to find ways of controlling those pests with less pesticide use. This unit is staffed with professionals in entomology, plant pathology, and expertise in determining how and when pests can be controlled effectively.

CHAIRWOMAN TANNER: Where tomatoes are concerned, do we generally bring most of our tomatoes in from Mexico? Is that correct?

MR. DOOLEY: No, that's not correct. There are, during times of the year there are fresh tomatoes that do come in from Mexico of the processing variety, which is where there is very substantial pesticide use. Almost all...

CHAIRWOMAN TANNER: What does your Department do about those tomatoes?

MR. DOOLEY: That come in from Mexico? We monitor those in the wholesale markets in the same way we monitor tomatoes produced in this state or other states in the nation, and they have to comply with the pesticide tolerances and so forth that domestic producers have to comply with. If we find that they exceed those tolerances, we put hold orders on the shipments,
and in many cases, or in cases in the past, have required that those be returned to Mexico or destroyed. So, those are subject to the same rules that tomatoes produced in this state or in the United States are subject to. The final area where this last unit functions is in an environmental monitoring area where they actually conduct monitoring studies of the fate of pesticides in the environment, and they take air samples to determine whether or not pesticides are drifting off of the targeted area or things of that nature. They also coordinate with the Water Resources Control Board, and other agencies that have concerns about contamination of the environment, in various studies to determine the impact the pesticides may have. And a final function that they have is to determine the interaction of pesticides and air pollutants in causing crop damage or creating toxins that may be worse than any of the air pollutant or the pesticide residue independently could be, and we have some studies going on at the University of California at Riverside that are involved in this area. I might add that the Department has become increasingly involved in trying to help establish priorities for research in the area of pest control. It has been our feeling in the past that the coordination of pest control research at the university has been lacking, and that entomologists have not been aware of what pathologists or other disciplines of the work were doing on particular crops. With the support of the Legislature last year there was included in the university's budget a program to fund an integrated pest management program at the University of California, which is for the first time an interdisciplinary attempt to resolve pest control problems, and one of the responsibilities of the University is to consider
the priority that we develop in determining where dollars should be spent for research. We have been developing priorities and submitting them to the University based upon how much pesticides are being used for particular pest problems, our hope being that if we can focus research on those areas we can find ways of controlling those pests and substantially reducing the amount of pesticides being used. I might say that in your request to have comment from our agency you suggested that we might want to talk about some of the problems that we are confronted with in the pesticide regulatory area, and I suppose we could spend a great deal of time on that subject. Our most immediate problem is that we've had a very substantial increase in our budget for the 80/81 budget year, which has resulted in a large number of hires and new program directions, and we're encountering, as is almost inevitably the case, some of the bureaucratic problems of getting staff on board and new programs functioning. We do hope, however, that we will have all of our new positions filled by November 1, and since the bulk of the new regulations become effective on January 1, we would hope that by that time we will have our staff trained and ready to begin immediately with a full-scale implementation of those regulations. I might indicate that there are a number of particular problem areas that we expect to arise over the course of the next few years. One major one is the question of trade secrecy of data that we require to support a registration of a pesticide product. The pesticide manufacturers contend that much of the data they provide is confidential business information and should not be disclosed or released. There is substantial
litigation in this field now at the federal level, and we would expect to have similar questions arise in California where there may or may not be conflict between the trade secrecy laws and the public information laws in the state. The consequence of that kind of litigation is quite time consuming and resource draining, and we're hopeful that we can find perhaps some way of avoiding that kind of problem. Perhaps an area which has not received as much attention in the past as it could have, and one which perhaps in the future will merit discussion by this group and others, and I think the issue was partially before the LENCA committee in the last couple of years, is the question of use of pesticides in the non-agricultural environment, either by structural pest control operators or by urban dwellers for non-agricultural entities. The estimates range anywhere from 25 to 40% of all pesticides used in California are used in those settings, and it's clear that our regulatory structure has not focused a proportionate amount of attention on problems that might occur in that setting. It's our feeling that serious attention needs to be given to that problem in ways that we might address concerns that arise in that setting. With that, I will conclude my overview.

CHAIRWOMAN TANNER: I read the Times series on pesticides, and if you really read that and think about it seriously, you begin to be afraid to eat or drink any water or eat any food. How about the residue on vegetables and fruit that come into the market? How do you monitor that? How do you check for that?

MR. DOOLEY: As I indicated earlier, we have staff on hand every day in the wholesale produce markets drawing samples of
produce that comes in. We have a statistical sampling procedure that we utilize and we're running those throughout laboratories to analyze for pesticide residue. I think that there were some important points in those series of articles in the Los Angeles Times which merit some consideration. One, the focus of the article was on deficiencies in the environmental protection agency's process for establishing pesticide residue tolerance, and secondly, on the Food and Drug Administration's procedures for monitoring residues that may or may not be in the produce. We have been aware of the first problem and have been in communication with EPA over the last year, encouraging them to make some improvements in their tolerance setting process. With regard to the second, the monitoring of residues, FDA takes about 10,000 samples through 16 laboratories nationwide on an annual basis. We take 8,000 samples alone in California. Our effort here in monitoring residues is nearly equal to the nationwide effort by FDA, so I think that, in conclusion, Californians can have some greater assurance that the residues that are on the produce going to their stores is being looked at much more closely. Perhaps one final point, too, our experience in monitoring is that in 70% of the cases we find no detectable residues at all, or very very low levels, trace levels, and in only one percent of the cases do we find residues exceeding the tolerance. I think perhaps one unfortunate implication of the L.A. Times article was that all produce going to market has residues at the tolerance level. That has not been our experience through our monitoring activity.

CHAIRWOMAN TANNER: But the tolerance standards are laughable, I mean some that were mentioned, the one avocado a year
that Californians, well Californians eat considerably more than one avocado a year.

MR. DOOLEY: I think there are definitely problems as I've indicated. We've suggested that EPA should take some action.

CHAIRWOMAN TANNER: Is there action being taken?

MR. DOOLEY: Well, it's our understanding that there is. They had a scientific advisory board of their own making, which suggested a number of reforms in their setting process, and now are presently in the process of trying to develop some procedures for instituting those reforms. One point, however, the intake factor is certainly an important one. However, it should be noted that once they determine where the safe level is in establishing a tolerance, they add a 100 fold safety factor, which, by EPA's view, at least is supposed to provide for some of the variances in dietary intake or levels of exposure that might occur throughout the nation. There certainly can be questions about whether or not that's an adequate assumption.

CHAIRWOMAN TANNER: Ok, thank you very much. Richard Spohn, Director of Department of Consumer Affairs, will be with us next.

MR. RICHARD SPOHN: Chairwoman, members of the committee, my name is Richard Spohn and I'm Director of the State Department of Consumer Affairs. I'd like to split my remarks today into two parts. First, a description of just an overview of the activities of the boards and bureaus within our Department that have some direct responsibility for toxic substances, and the second part of my remarks I would like to talk about an area of toxic pollution that really is not being addressed by virtually anybody, but I
think your committee could make some real inroads in. There are four units within our Department that have some responsibility for monitoring and regulating toxic substances, our Bureau of Home Furnishings, our Board of Fabric Care, our Structural Pest Control Board and the Division of Consumer Services. Let me just very briefly indicate what they do, and there are representatives from one of those programs here if you want to get into any great depth. The Division of Consumer Services has within it a Solar and Insulation Unit to which consumers can call with problems in either of those technologies, and one of the things that they have been quite involved in, including with the Auditor General's Office, has been in the whole area of formaldehyde foam insulation, which, as you know, is in many people's estimation a very serious problem. It's been banned in Massachusetts, whether or not it's pornographic or what I don't know, but it's also required to be labeled in New Jersey and some other states. We encourage people to call and let us know the problems they have with UFFI, and every single one of the calls that we've had to date, people have called to complain about it. These are the people with UFFI in their walls, and it can cost up to about $20,000 to rectify situations. Everyone of them has reported allergenic reactions to the UFFI. They, about 1/4 of them, have required medical treatment, and it's not clear whether any of them are any more statistically sensitive than the normal run of the population, so we are monitoring that activity. The Structural Pest Board, as you might surmise, licenses the structural pest operators in the state. As Dan Dooley indicated a moment ago, there are an awful lot of pesticides outside of
the fields; they're sprayed in the homes. The basic substances they are dealing with are methylbromide, sulphurfluoride and chloropicrin. They deal with both fumigants and pesticides, and they have an interaction relationship with the Department of Food and Agriculture and the local county agricultural commissioners. Over the past couple of years they have tried to tighten up the regulatory standards, license standards, standards of negligence, standards of continuing education, record-keeping, secondary locks and so forth in an attempt to insure and minimize as much as possible the impacts of the application of the fumigants and pesticides in those built environments.

CHAIRWOMAN TANNER: Are these regulated as they are in agriculture?

MR. SPOHN: I'm sure they feel they are. The business of permission to spray, that emanated from the Attorney General Younger's opinion of a couple years ago, affected them as it did the agricultural operators, and Food and Ag and the Structural Pest Board have been, over the last number of months, trying to work out the appropriate reporting relationship, who has to report to whom, how often and so forth, and the basic contact point there is at the county ag commissioner level. The Board of Home Furnishings is responsible simply for registering people who deal with things that get into the home, like pillows, sofas, upholstered materials and what not. They don't have to take a license; they don't have to demonstrate competence. The bureau has no direct statutory authority to regulate the toxicity in those consumer commodities, but they have the last couple of years spent a
considerable amount of time and money investigating the potential hazard in toxicity of those substances when they get into a combustion mode, as they say, in other words, what happens when something catches fire, what kind of toxicos are released thereby. The bureau has what is considered by the industry and other regulators to be one of the finest laboratories in the country. It's right here in Sacramento and I'd like to set up a tour for you sometime if you would like to go out and see that. But they have screened for toxicity purposes such materials as polyurethane foams, cotton battings, polyester battings and a variety of fabric materials. The state of the art on combustion toxicity is such that the bureau to this point has trusted only their own data, the stuff that they have done in their laboratory as a basis of regulation. They feel that the only reliable source is the work they do, to give you an indication of the state of the art on toxic materials in the home that frequently burn, and of course, one of the major responsibilities they have is on flammability standards for those things. The third board within our Department that has some responsibility for regulation of toxic substances is the Board of Fabric Care, which is the old Dry Cleaners' Board, and they license dry cleaning establishments. The main substance there is perchloroethylene, followed by carbon tetrachloride, and trichloroethylene perc, as it's known, may or may not be carcinogenic. One federal agency, in a study of mice, said that it was carcinogenic. EPA, in apparently a knee-jerk reaction, said it wasn't. There is a two-year study being conducted by Stanford Research Institute that's due out within the next month or so that will be considered to be a fairly definitive statement,
at least to date, on whether or not Perc, which is the major toxic
substance or else the major substance by which all of our clothes
are cleaned, whether or not that is carcinogenic. The metering of
the toxic chemicals involved in dry cleaning over the last two
years has become a major part of the Board's inspection program, and
it's assigned to top priority to studying what is an emerging
consumer service, namely on-site drapery cleaning to determine
whether or not that is something that ought to be considered within
its overall regulatory ambit. They are corresponding now with
local county health officers, people in the industry trying to get
a cut in the matter. They are conducting studies at the Bureau
of Home Furnishings laboratory on this and they will be holding
hearings within the next six to eight months on this problem. So
this, again, is another toxic substance that, by virtue of a new
consumer service, is being introduced into the home, and they want
to get a cut on the level of the toxicity that is thereby being
introduced. So those are the four units within the Department that
have either by statutory authority or, in the case of the Division
of Consumer Services, a default responsibility for monitoring and, to
some extent, regulating toxic substances. I'd like to move on. Our
Department, through its 38 boards and bureaus, licenses about 1.4
million people. We license the people that design and build the
buildings; we license the people who treat people for health
problems. For the last year and a half to almost two years, some
of the people on the boards, people in my office, have been looking
at a newly emerging area that we see pointed to by some crises,
and it's characterized at this point by crisis management. I
would like to suggest that this committee in concert with other
relevant committees in the Legislature and appropriate departments in the Executive Branch, begin to address the question of indoor environmental quality. We are necessarily taken up to date with the Love Canal type problems, the gross outdoor environment toxic pollution. There are responsible, thoughtful researchers who feel that there is emerging a similar level of pollution within the built environment itself. It's even spawned a recent health discipline entitled Clinical Ecology, medical practitioners who are expert in the area of diagnosing health symptoms or unhealth symptoms as they might relate to pollutions in the built environment. The health standards of the buildings that we have today are largely early 20th Century standards. In the last 100 years we've gone indoors. We've about reversed the amount of time that people spend indoors and outdoors. Not only have we gotten indoors, we've also tightened the doors, and in tightening the doors, we have severely strained the human adaptive abilities to cope in that built environment. There are a lot of problems that are emerging and they are multiplying in interactions that we don't really understand. Our institutions are traditional theories and analytical tools and response mechanisms have to date proven completely inadequate. These problems have both direct health impact potential and they also raise stress levels, cut down our ability literally to think as well as to cope within the built environment. These problems emanate from the design, the materials, the construction and the operations of the built environment. They include chemical products introduced into the built environment. They include lighting problems; they include problems in air quality emanating from
electronic equipment and so forth. Typical indoor contaminants include gaseous and particulate pollutants, pollutants from indoor combustion processes such as cooking and heating, toxic chemicals, odor masking chemicals, nitrogen dioxide and carbon monoxide from gas stoves, formaldehyde from particle board, your rare formaldehyde foam insulation grade from various building materials, and so forth. These are all relatively low level pollutants at the out-start. However, the combination is something that we are not completely, that we don't completely understand. There is, for example, a very intriguing and rather considerable body of research that is given varying degrees of credibility, for example, on the health impact of the quality of lighting. There is a small but very dedicated band of analysts who feel that the quality of lighting that we have in our built environment has a direct impact on our health, and it has to do with whether or not we are receiving the full spectrum of light that is typical of natural light, and a lot of studies have been done on the effects of non-full spectrum lighting. That research needs to be tightened up. It needs to be done better, but the research that has been done to date have suggested that the body's tolerance to environmental pollutants is increased by full spectrum light and that such light increases the effectiveness of immunization procedures, for example our ability to stay immune to certain diseases. Some researchers have found better visual acuity, less physiological fatigue, shorter reaction time to light and sound, improved working capacity, reduction in colds, decreased pulse rates, lowered blood pressure, improved academic performance, significant improvement in physical fitness, fewer cavities,
greater efficiency of their intestinal calcium absorption and on and on, when people are working under full spectrum lighting. There's a whole range of studies that have been done in that I don't think we completely understand it, but certainly in a room like this we wouldn't know what time of the day or night it is. It's certainly a question that has to be raised. Under air conditioning there is little regard, for example, for the relationship between the indoor air quality and the outdoor air quality. Many times the air conditioning systems we have today simply reprocess lousy air from outside into the inside, again, a low level toxic pollutant that is being increased.

CHAIRWOMAN TANNER: Could I interrupt you? What we are interested in knowing today, namely, is what, how the agencies and departments work together, who has the responsibility to follow through on various problems, who has the authority in certain areas of pesticide and such. For instance, in your department, if a consumer is having a problem, say in a mobile home with the formaldehyde, if that consumer calls your department, is your department there and available to give some assistance?

MR. SPOHN: If it has to do with formaldehyde, UFFI insulation, we can give them assistance in the sense of saying, well, here's someplace where you can go to get medical help, or here are the implications for keeping that, or here are the cost implications for getting rid of it, and so forth. Mobile homes are a particularly acute area, and, unfortunately, there's a certain serendipity there because some of the most vulnerable people, namely the elderly, live in mobile homes and they're
less health robust and, therefore, more vulnerable to the allergenic reactions that people typically experience.

CHAIRWOMAN TANNER: Those are the responsibilities I see that the state has to protect the consumer from those serious problems, and I know that we're going to have to have a lot of research done on these other things that you mentioned, but I think we have to deal with the immediate problems. What I'm hoping that this committee can find out is how the agencies and departments are working together, where we go for assistance on various problems.

MR. SPOHN: Yeah, ok, well I can tell you that there's not much going on in this area. I have a number of other points that I want to make, including some I think important policy considerations in this part, but if you would like me to. One of the problems has been in the practice of building design, architects, engineers, contractors. Contractors design most buildings, by the way. Contractors design most houses. They are not designed by the architects. They're designed by the contractors, or building designers working for contractors who build them, the point being that the practice of building buildings has yet even to come to grips with the things that I am indicating right here. I don't think we understand the individual problems, and we certainly don't understand the patterns of these problems, let alone the interactions, the problems that happen when you get several of them together. Within the medical field there is virtually no treatment of these kinds of ill health
inducing factors in medical training. It's simply not something that's taken cognizance of, and, consequently, there is just an awful lot of misdiagnosis and consequent mistreatment, often treating the symptoms and drugging people whereas, and missing the actual causality, precisely because the medical practitioners aren't aware of it. I think that in terms of what is needed as you try to scope out who's doing what in the state, there are several things that are needed. First of all, we need basic quality reliable research on the diseases themselves, on the patterns of those diseases and the interaction of those problems. That has got to be done in an interdisciplinary assessment of building design, there has to be interdisciplinary assessment of building materials, and there has to be interdisciplinary assessment of health quality impacts in these things. I think we need some reporting mechanisms. That's, again, a first condition for getting the quality data for making quality policy, and there are simply no reporting mechanisms on the incidence of health effect of a lot of those low level toxic pollutants. I think we also need, initially, while this kind of research is going on, some kind of public education, and you walk a very fine line here between sounding and unjustified alarm on one hand, and on the other hand telling people to take it easy and don't worry about it and someday we'll figure out what the problem is. There are people, for example, in the state government who feel that the UFFI problem is tomorrow's asbestos problem, and I think what we want to try to do is find out what are tomorrow's asbestos problems. What is the Legionnaire's Disease of tomorrow? What can we do today to...
gather the data, do the research and make the sound policy to prevent those kinds of things? There are a number of policy considerations that have to be made in that thing. You get down, among other things, the fundamental question of do you declare something safe until it's proven hazardous or on the basis of somebody or data - do you declare something hazardous until it's proven safe, or do you simply start it in slowly and monitor it? We're talking about introducing pollutants into the environment, and these are fundamental policy questions. Who should bear the burden of proof in establishing those things, the person who introduces them into the environment or the person in the environment who is affected by those things? What are the consequences of each one of these alternatives, economic, social, biological, ethical, if you declare something safe until it's proven hazardous, or vice versa or whatever? Who should bear the cost of harm? We've seen a number of instances over the last five years with these kinds of toxic assaults on the environment have been discovered with, very late in the day, serious health damage, and there is just a horrendous question of who's going to pay for it, who's going to compensate people for that damage. How should that burden be allocated? As you talk about questions like that, you talk about the question of the effect of liability placed on whichever side, on innovation, on new R & D, on marketing and so forth. I think there is always that tension between stifling innovation, new good products on the one hand and on the other hand protecting the public health and safety. The technology of the built environment is accelerating so rapidly that this has got to be looked at. The
point of intervention for the government is important.

CHAIRWOMAN TANNER: These are very interesting things and, yes, these are policies that we have to consider, but mainly I want to hear from you, what does your Department do?

MR. SPOHN: Well, for the last year and a half we have been trying to gather research on this particular problem, indoor environmental quality, assessing the quality of that research, trying to bring it to the attention of other governmental agencies, trying to bring it to the attention of other bodies within our state. We have felt hesitant to date to issue stern warnings to the public. We're in the process of devising a consumer pamphlet, and also a chapter in a new health care catalogue that we're bringing out on sort of the prospective problems here, but I dwell on this to bring it to your attention because I think that there is woefully inadequate attention being paid to it within state government. I would urge your committee to take a look at it and to work with the Executive Branches to see to it that we start getting the research, start getting the data collection, start doing the public education so that we can manage responsibly this introduction of new toxic substances into the built environment, which is where we spend the vast majority of our time today. That's basically my message. I'm sorry to tell you that there is not a lot of work being done on it, but I felt I would be derelict if I didn't tell you that.

CHAIRWOMAN TANNER: I think that the Governor and the Administration is very concerned. Since clearly the Legislature is concerned, we have this committee now and we intend to pursue that and many other things. I appreciate that.
MR. SPOHN: Right, we stand ready to help you in whatever capacity we can in regard to this and everything else.

CHAIRWOMAN TANNER: Mr. Richard Wade, Deputy Chief of the Health Unit, Occupational Safety, of the Department of Industrial Relations, is next.

DR. RICHARD WADE: Madame Chairwoman, members of the Subcommittee, my name is Dr. Richard Wade. I am by training a Toxicologist and trained in Occupational Medicine. I'm in charge of Occupational Health Programs in the Department of Industrial Relations for the State of California. Our program activities range from that of research and education to enforcement of occupational health and safety standards in California. Our primary goal in that capacity is to protect approximately 11 million workers in California who daily work in approximately 750,000 places of employment in the state. To accomplish this arduous task we rely upon a number of methods, including one, the enforcement of general occupational health standards within the State of California having jurisdiction for most all places of employment except the federal facilities. We also are charged with enforcing the state Carcinogen Control Act. In addition, we conduct special technical studies and research on the health effects of materials encountered in the work place. Additionally, we are involved with the training of occupational health professionals, the education of employees and employers, providing technical consultation to employers, the development of occupational health standards, and providing a mechanism for answering both employees' and employers' questions regarding toxic materials in the work place. Our first priority
and primary mission is that of developing and enforcing occupational health standards within the state. In order to do this, on the health side we employ a staff of approximately 100 industrial hygienists who make unannounced inspections on places of employment, and we have approximately 100 people to cover 750,000 places of employment. In the place of employment we monitor for worker exposure, the increased incidence of occupational disease as required to be reported by that particular place of employment; we monitor work conditions in that place of employment, and we look for unsafe work practices. Our industrial hygienists are highly trained in two scientific areas, one of engineering and the other of toxicology. We can measure in the field or take samples back to our laboratory for analysis for just about any type or physical perimeter we might encounter. In the place of employment, we also monitor for medical records, which are kept by the employer on their employees, and, if appropriate, we monitor for biological monitoring plans. This is, for example, some exposures require routine blood monitoring, urinalysis, hair samples or hearing acuity tests, or other kinds of biological monitoring. We also look for what types of information, education and training are provided to employees who are working with hazardous or potentially hazardous material. When appropriate, and where we can document it, citations are issued and abatement dates set. Follow-up inspections are then conducted. We use similar methods in the enforcement of the state Carcinogen Control Act. Under this act we protect all employees in the State of California from the 17 known human carcinogens included on that list of carcinogens. These are materials like
DBCP, polychlorinated biphenyls, asbestos, benzyne and so forth.

CHAIRWOMAN TANNER: Do you monitor on a regular basis for those?

DR. WADE: Yes, any employer who uses one of those known carcinogens has to register with us, and we make inspections of those places. It's a $10,000 fine for failure to register or not registering or having employee exposure.

ASSEMBLYMAN FELANDO: When was the last time that you monitored the working conditions in the Capitol, I mean, like in the basement for instance?

DR. WADE: I know last year we were involved in a substantial, at least, allegation in the Capitol on lead exposure.

ASSEMBLYMAN FELANDO: How about the Department of Consumer Affairs, have you been over there lately?

DR. WADE: I'm not sure. We are involved in a really large study in the Legislative Audit Committee with problems, at least allegations, of indoor air contaminant, as was just mentioned by the previous witness. We are doing a large scale study, both from our medical staff and our industrial hygiene staff. I've talked about the enforcement. We also do technical studies. We, in the last year, have finished studies on such materials as inorganic wood preservative. We have finished studies on 2,4-D, which is a widely used controversial herbicide in the state. We have finished a large scale study on asbestos. We just finished one on reproductive hazards of Ordram, a pesticide, as it applies to the manufacturing and formulation of the people who work on producing the pesticide. We finished a study on trichlorethylene and its effect on workers,
as well as a study on plastic pipe solvents used in the plastic pipe industry, particularly plumbers, and the controversy surrounding that. Studies are now underway by us on noise, chlorinated hydrocarbons, the controversial issue of microwave radiation, of communications in the proliferation of microwaves in the environment, the health effects in the electronics industry. We have some 150,000 workers in California in the electronics industry, which we believe have not been studied enough up until this time, so we have a fairly large scale study going on there. In addition, we are funding studies through the occupational health centers that we have established, studies on lead, skin absorption of organic materials. There's a lot of unknowns concerning how rapidly certain organic materials are able to get through the skin, and we are funding studies at the universities in that area. In addition, we are looking at the whole issue of mutagenic effects upon germ cells, sperm and egg cells, and the teratogenic effect upon developing fetuses of material such as formaldehyde and ethylene oxide, which is a gas used in operating rooms, hospitals and the agricultural industry for fruit preservation. So, in addition to the enforcement and research and special studies, we are also involved in training of health professionals indirectly under Section 50.7 of the Labor Code, which calls upon the Department of Industrial Relations to develop occupational health training centers. In execution of this, we have a contract with the University of California system to provide training for occupational medicine physicians, occupational health nurses, industrial hygienists, toxicologists, epidemiologists and occupational health educators,
This work is going on; the universities have developed occupational health centers, one in Northern California and one in Southern California. It involves U.C. Davis, U.C. Berkeley, U.C. San Francisco, U.C. Irvine Medical School, and UCLA in Southern California. These centers are providing clinical services; the physicians are seeing patients on referral from other physicians, the suspected occupational diseases. They are providing training for the physicians, nurses and so forth, as well as doing the research we are stimulating, putting seed money in for research, but this is proliferating in terms of their solicitation of federal funds for research on occupational diseases. We are very happy with the progress the university has made in this regard. I think that this is a very good indication of a small amount of money spent that can be multiplied to expand the need, fill our need and the State's needs for technically trained people in occupational health. In addition, an additional responsibility is under Labor Code Section 147.2, the Department of Industrial Relations, through an interagency agency agreement with the Department of Health Services and Dr. Lyman, referenced this morning. We are funding the development of a health evaluation system and information service within the Department of Health Services. This unit is located in Berkeley; it is staffed up with physicians and cancer researchers and toxicologists who are able to provide technical information, ranging from an employee or employer calling in and saying, "I'm working with Agent X. What do you know about Agent X?" And we can tell them that we know about it from the files. If we don't know, we can do a literature search; the system is tied in
with some 210 computer programs. We can get the literature back, interpret it and, hopefully, make it in plain English so the employee or employer can understand. In some cases it requires extensive study, and in those studies I've mentioned, like the TCE, trichloroethylene, the 2,4-D, we spend many months of effort researching to produce technically sound documents. In some cases like TCE, when we look at that, we find that our existing standard was not adequate. Our standard was 100 parts per million. Since that was developed in 1973, we can show that people get sick at 25 parts per million, so we are bringing our standard down. Another area of responsibility of the Department of Industrial Relations is providing technical consultation. We have a consultation unit, which is separate from our compliance operations. This unit responds to requests from employers to provide technical assistance in evaluating the hazards in a place of employment.

CHAIRWOMAN TANNER: Do you have many requests for that?

DR. WADE: Yes, we do. Last year, on the health side, we had 614 requests and did 614 studies for our business and industry in California, so the operation is about three or four years old. It's 90% federally funded, 10% state funded, and it's being well received by the business community, both large and small industry. There is a complete separation from enforcement, so we try and make a point of that, that is, no overlap between the two. Another administrative function we have is our Appeals Board. When one unit of the Department issues citations, there is an appeal mechanism of appointees appointed by the Governor who sat to hear what administrative law judges those citations. The grieved party can appeal it; the Board can overrule the division's findings on
citations. They do sometimes; fortunately, not very often. The, if the aggrieved party is still not happy with the resolution by the Appeals Board, they can go into court, but we are able to resolve most of the issues in getting compliance in handling the citation through the appeals process. We have a minor involvement with pesticides in that we have an interagency agreement with the Department of Food and Agriculture. Our responsibilities are, one, to sit on the Interagency Advisory Committee on pesticide regulations.

CHAIRWOMAN TANNER: Who makes up the Interagency Advisory Committee?

DR. WADE: Department of Health Services, Department of Food and Agriculture, Department of Industrial Relations, I'm not sure who the other parties are. I don't know if Mr. Dooley, the Air Resources Board, Water Resources Board, and I think Fish and Game, those are the parties. In addition, we have specific regulatory responsibility in the manufacturing and formulation of pesticides. We just completed, as a targeted compliance activity, making inspections in some 200 manufacturers in California who are involved in either manufacturing pesticide or formulating pesticides, and we issued several hundred citations as a result of this year-long effort looking at businesses that manufacture and formulate pesticides. Our only involvement is that part of the process. In standards development, we have a Standards Board that is responsible for making final decisions. We, the technical staff, make the recommendations. This is an appointed board by the Governor; they make final decisions whether a standard is to be developed and, if so, at what level. An additional area regarding toxic materials, which we're just initiating in response
to the Governor's interest in our own, is to increase the availability. We have highly technical people trained in toxicology and engineering. We are trying to make these people more available to other agencies, whether that be a local fire department, a local police department, or a private company or CHP or Caltrans, on an as-need basis. We can advise them on the toxicity of materials that are in the spill of being combusted or whatever. So we have set up, I have 33 industrial hygienists throughout the state who have with them at their home, in the trunk of their car, equipment, personal protective equipment, and they are on 24 hour a day call. We respond to several thousand such incidents a year.

CHAIRWOMAN TANNER: How long has that been?

DR. WADE: This is just in the last year. This is something we've developed on our own. So far as problems, in summary I'd have to say that the biggest problem we face is that we run a fairly technical program, and to develop the competent technical staff that we need is very difficult within the auspices of the state Civil Service system. The increased emphasis on toxic substances of hazardous materials, not only in the behalf of the state, but industry, all sectors, has made tremendous competition for technically qualified people. We have been totally frustrated with our attempts to recruit and retain technical people within our program. To give an industrial hygienist the responsibility of going out and evaluating whether it's safe or not to work there is a complicated area of toxic materials, to give them the authority to issue many thousand dollar citations, takes not
only technical training but several years of agency work before they can go out on their own. We have problems with salaries; we've had problems with once we find someone who's willing to work for us, it takes us months and months to try and get them on board. In the meantime, they are snapped up immediately by private industry. They can hire them within a day or two, so it's very frustrating.

One of the problems is we're highly selective, and we do not allow people in our agency to go out on their own unless they have demonstrated one, technical training, and second, they have had the experience through our program under direct supervision of other industrial hygienists. The problem is getting the technically qualified people that we want to put into our training program at the start. Other problems we have is that the increased expectation and concern over toxic materials has increased our workload substantially. Right now we have, as of this week, a 530 complaint backlog. It's taking us anywhere up to ten months to get out to a place of employment once an employee complains to us. We obviously prioritize those; if someone says that they're bathing in a highly toxic material, we'll prioritize that, but we still have a backlog and we, by statute, have to get out to every complaint. This is a real problem for us, dealing with this backlog. A third area of frustration for us is the whole process of standards development. We now have standards for approximately 2,000 different chemicals. However, there are hundreds of thousands of chemicals used.

ASSEMBLYMAN FELANDO: How is your Department funded? Does that come out of the General Fund?
DR. WADE: Yes, 50% General Fund, 50% Federal Funds.

ASSEMBLYMAN FELANDO: Oh, you do have federal funds. What's your state budget; what's your total budget?

DR. WADE: About $23 million. Currently we have standards for approximately 2,000 materials, although there are hundreds of thousands of materials being used in the places of employment every day in California, with new materials being added daily. At best, it takes us six to twelve months...

CHAIRWOMAN TANNER: These new materials that are being added, someone else has checked them out, right?

DR. WADE: They may or may not. Oh, no, there are no standards for them, so if you wanted to put a new product on the market right now you wouldn't have to have a standard for it. You could go ahead and put that on the market or have employees...

ASSEMBLYMAN FELANDO: The point that Spohn made, that we're not doing that now, there's a question there as to whether we do it before and find out if it's a hazard or after we find out it's a hazard.

DR. WADE: So, we do not have standards for many many materials that people are working with. As a case in point, let me tell you of a situation that's perplexing to us right now. There is a facility in Southern California where we know that six out of eight women, eight pregnancies in the work force, six of those women have spontaneously aborted in the last year, and one of the two women did bring their child to delivery and had a severely deformed child. There are some 30 chemicals that these
women are working with. There's obviously something very wrong in that place of employment, but what we have to do is, first of all, get the data to show beyond a reasonable doubt in court that this material is producing this effect. We've only got standards on six of the 30 materials they're using, so it becomes very perplexing for us to take action to clean up the situation. Lastly, I say that one of the problems we have...

ASSEMBLYMAN FELANDO: If we had to do tests in all the different areas of hazard on every single new compound that came out, I can see both sides of this question, I really can. What do you do before you do that? It's sort of a ranger's art as which way you go on. The thing that comes to my mind is the so-called living dead, when they were working with radium on watch dials, when they had the luminous watch dials, the women that were painting those dials, everyone of them died from cancer...

DR. WADE: Personally, I believe it should be the responsibility...you should not put a new product on the market, whether it's in California, nationally or anyplace, unless it has been tested very thoroughly. Then nationally, there is legislation...

ASSEMBLYMAN FELANDO: How many tests do you run on it?

DR. WADE: I would say, as a minimum, so-called acute toxicity and the so-called invitro assays, which you run some animal studies for its cancer producing ability for three, four, five, six months, and you also do so-called invitro tests, which are laboratory tests as developed by Dr. Ames at Berkeley, which are more rapid methods of assessing the hazards of the material.
think those, as a minimum, should be done on any material before it's allowed to be used by human subjects in the workplace, because they end up being experimental animals.

CHAIRWOMAN TANNER: Those tests should be done by the industry.

DR. WADH: They should be done by whoever is producing the material and putting it on the market, and all materials which are used currently, we should have that kind of testing done. If the testing hasn't been done, I don't think it should be used. Lastly, a problem that we have is more and more we're finding very complicated technology; thus, those of us in industrial hygiene used to look back at the "good ole days," which are really the bad ole days in terms of exposure, but the technology was fairly simple. Now, we get into areas like the electronics industry where the technology is highly sophisticated, highly complicated, highly competitive, and everything is classified in trade secret. There we're told Agent X goes in, a blackbox technology in Agent Y comes out. There might be something that comes in between, but it's difficult to figure it out, so we have to spend a lot of time assessing the technology, trying to technically evaluate what it is that's going on and what the potential then is for human exposure. We can do it; it just takes a lot of time, like the electronics industry. We're spending probably three person-years of effort just taking a critical look, which no one has ever done, at what kinds of materials are being used and how hazardous they are, real or potential, in the electronics industry. So those are my comments, and I welcome any questions you might have.
CHAIRWOMAN TANNER: I think it's rather exciting, the kind of work you're doing.

DR. WADE: It's exciting and frustrating.

CHAIRWOMAN TANNER: Thank you very much. Mr. Richard Hansen, Department of Fish and Game, and you're the Director of the Water Pollution Control Laboratory, right?

MR. RICHARD HANSEN: Madame Chairman, members of the Committee, my name is Richard Hansen. I'm a senior water quality biologist with the Department of Fish and Game, and my duties include supervision of the fish and wildlife water pollution control laboratory located at Nimbus. Mr. Fullerton requested that I appear before your committee to outline the Department of Fish and Game's responsibilities relative to toxic substances. On behalf of the Department, I appreciate this opportunity to discuss our programs with you, and I request that our comments be included in the hearing record. I've just given you copies of our prepared statement. First, I would like to point out that the Department has the primary custodial management responsibilities for the State's fish and wildlife resources and we recognize that toxic substances can be a threat to the well-being of these resources and, therefore, considerable effort is expended on control activities. The committee may be interested to know that the Department is not a Johnny-come-lately in the field of toxics. Our basic antipollution laws, which include toxics, date back to 1872, so we've been in this business for about a little over 100 years. Today, in addition to our warden force, the part which we have -- about 300 wardens statewide -- that
whenever they're faced with pollution or a toxic material problem, they'd get involved. We have a statewide staff of over 30 professional biologists, chemists and technicians whose sole responsibilities are directed to investigating impacts of toxic substances and other kinds of pollution on fish and wildlife, and to seek corrective measures where this can be done. In support of these activities, the Department developed a centralized laboratory with analytical capabilities we believe are on par with the best of those laboratories in the nation that are dedicated to such problems. We have a unit in our laboratory whose sole responsibility is dedicated to pesticide problems as they relate to fish and wildlife. The Department's overall philosophy is to protect fish and wildlife from toxic substances, to prevent them from occurring in quantities and places where they can cause an adverse effect. This is done by identifying the causative agent when we run into a problem, locating sources and enforcing pertinent sections of the Fish and Game Code. Then we advise the Regional Water Quality Control Boards on waste discharge requirements. Now, in this context, adverse effects are those that cause the reduction in the potential productivity in the resource. This may be translated into reduced farming opportunities, reduced survival of eggs in young, reduced growth, etc., any which singly, or in combination, damage fish and wildlife resources. Our programs involved with toxic substances can be divided into two categories. The first is statutory responsibilities and the second are applied technical studies, and I'll discuss the statutory responsibilities first. Whenever we can determine an adverse effect has occurred to fish and wildlife from toxic substances we proceed under Fish and Game Code Section 5650 or 2014,
and copies of our Code Sections are appended to the handouts they
gave you. Now, investigations and enforcement of violations under
5650 are conducted by the Department of Water Quality Biologists
and Wildlife Protection Personnel. This Section, we believe, is a
strong deterrent against the illegal disposal of toxics and other
pollutants to state waters. The law is designed to act against
individuals who carelessly or negligently allow toxic materials to
enter state waters.

CHAIRWOMAN TANNER: Isn't that happening on a fairly
regular basis now?

MR. HANSEN: That people are discharging toxic materials?
Certainly, and when it comes to our attention, then we can proceed
under our Code Section.

CHAIRWOMAN TANNER: How does it come to your attention?

MR. HANSEN: The public, largely, calls us and lets us
know, or they're discovered by our personnel, but largely the public.
I must admit, in the last ten years the public is very attuned to
fish gills and that type of thing which brings us into play.
Pardon me, an overlapping.

ASSEMBLYMAN FELANDO: Yeah, I get the feeling, from
what I've heard today, that we've got an overlapping all down
through this whole toxic substance subject.

MR. HANSEN: There may have some; probably we're closest to
the State Regional Boards, where they have responsibility to control
discharge of waste to the state waters. We, on the other hand,
are advisors to the Board, but we can also proceed under our laws,
under civil actions suits, as well, to clean up, and as a matter of
fact, many times they call it to our attention because we can
operate faster under our laws than they can. There is a difference. For example, this law is designed to act against individuals who carelessly or negligently allow toxic materials to enter state waters. For example, where I have compiled data during 1978, a total of 142 cases were prosecuted in courts by the Department, with the major portion of the cases, that was 81, that were related to the discharge of petroleum products, oil spills in particular, and the remaining 61 cases related to discharges of other toxic and hazardous substances deleterious as to fish plant life or animal life.

ASSEMBLYMAN FELANDO: How far out does your authority extend off the coast?

MR. HANSEN: Three miles.

ASSEMBLYMAN FELANDO: That's as far as you can go?

MR. HANSEN: Yes.

ASSEMBLYMAN FELANDO: In other words, some of the oil platforms that are out in that Santa Barbara channel are outside your jurisdiction?

MR. HANSEN: They could be. Now, we were very much involved in the blowout in Santa Barbara a few years ago, and the Department was one of the main agencies that investigated that and received a settlement for those for the damage.

ASSEMBLYMAN FELANDO: Was that one inside three miles?

MR. HANSEN: I don't recall just exactly; I think it was, but I'm not sure.

ASSEMBLYMAN FELANDO: I visited one of those platforms a couple of weeks ago and I was amazed at how clean the water was round that platform, in fact, the sea life that has attached itself to the stanchions was incredible. There were colonies of mussels
this thick.

MR. HANSEN: That's true. Where we run into problems is when we have accidents and blowouts and spills, usually during transfer operations; that's when problems come up, and that's where we get involved. Under 5650, 5651 authorizes the Department to assist the Regional Water Quality Control Board and the State Board in their efforts to control toxics and other forms of pollution. That's in our law and, in other words, we must call to their attention any chronic situations that occur. We deal largely with one-shot types of operations, an accidental spill, something of that nature, whereas the Board is looking on a longer term. Section 5655 authorizes the Department to clean up or abate spills of petroleum products under provisions of the Harbors and Navigation Act, and that commences with Section 151. Section 2014, the Civil Penalty Section of the Fish and Game Code, is currently utilized on cases where the state seeks restitution for destructive impacts to fish and wildlife and their attendant habitats. The cases are handled through the Attorney General's Office, with assistance provided by the Department in evaluating the quantifiable damages. Two cases of recent times were the Santa Barbara oil spill and then the tanker collision case in San Francisco Bay. Now, under the Porter-Cologne Act, which governs the state and Regional Water Quality Control Boards, the Department of Fish and Game is given authority to evaluate oil spill cleanup agents, which must be registered in California before they can be used, and we evaluate them for their toxicity, and the Department also supervises the cleanup of oil spills. Now pesticide regulations mandate the Department
to be represented among committees charged with reviewing and making recommendations regarding pesticide use programs that were mentioned earlier, where we have membership on the Pesticide Advisory Committee, the Pesticide Registration Evaluation Committee and the Pesticide Control Advisor's Committee. Now, in support of our statutory responsibilities, the Department conducts applied studies to gain knowledge regarding the interactions of toxic substances to fish and wildlife. For example, in recent years we have expended considerable effort on acid mine pollution problems, which sometimes cause catastrophic fish kills. Our efforts have been directed mainly toward Spring Creek in the upper Sacramento River and the Penn Mine on the Mokelumne River. Laboratory experiments supported by field studies have given us considerable insight on the toxicity relationships of copper, zinc and cadmium. This information now is being used to design schemes for control. As another example, we have conducted similar kinds of studies on the disinfectant chlorine, and we now have good understanding of its toxic relationships to aquatic life. This information has been incorporated into waste discharge requirements issued by the Regional Water Quality Control Boards. During the past several years, the Department has entered into a number of contracts with other state agencies to conduct studies of toxic substances. For the most part, the studies are mutually beneficial. They provide necessary facts for the contracting agency relative to their responsibilities, as well as increasing our knowledge of the relationships of toxics to fish and wildlife. Some of these agreements are fully funded by the contracting agency, while others are cooperatively matched with Department funds, and
I'll just mention the programs we have in line for 1980/81. One of our programs is the toxic substance monitoring, and in my version of the Sacramento Bee, I live in Placerville, there was a large article about our work on the Feather River in looking for a PCB problem. This is an interagency agreement with the State Water Resources Control Board to examine aquatic biota from major waterways to determine uptake of selected organic and inorganic contaminants. In effect, we are using fresh water fish and invertebrates to monitor water quality trends over time. Samples are collected by project biologists and are analyzed by project chemists, using State-of-the-Art techniques. The monitoring scheme is intended to identify acute problem areas and stimulate more intensive studies if necessary. The project has been ongoing since 1976, and has identified several problems involving pesticides and toxic metals. Studies are now under way to determine the magnitude of the identified problems, and the Feather River is one of our action plan areas. A State Mussel Watch is the marine version of the inland toxics monitoring program, and it's also conducted under an interagency agreement with the State Water Resources Control Board. The general intent of the State Mussel Watch is to provide an assessment of background levels and trends of conservative toxicants in California's coastal zone near-shore of the Pacific Ocean, as well as in bays and estuaries. The monitoring effort serves as an environmental barometer or early warning network of toxic substances in the coastal zone biota. The program monitors the chemical state of California marine waters and identifies
elevated toxic substances accumulation, and there's been a number of significant findings but I won't elaborate on them here. A report is issued each year. It's into its fourth year this year. By the way, back in the toxic substance monitoring report, a report is issued each year which shows the state of our rivers. The biological effect study is an interagency agreement with the State Board, and it supplements the State Mussel Watch Program. The Mussel Watch Program identified areas in the coastal zone with increased levels of toxic substances, particularly around urban areas and bays and estuaries. The intent of this study is to determine the biological effects of these raised levels of pollutants on the mussel, and then, once known the degree of influence of the pollutants, it will be used to initiate and support followup enforcement actions by the State Board and the regional boards. Now under another interagency agreement with the State Board, the Department of Fish and Game has the responsibility of evaluating performance of laboratories conducting toxicity tests for purpose of the MPBS permit program, and Dr. Cohen touched on this this morning. Currently, we are the only state with such an evaluation program, but other states are now in the process of initiating similar programs. We get a call or two every other week on states that are interested in our program and attempting to gear up. The purpose of the program is to make sure that acute toxicity bioassays, which is the selected method for testing relative toxicity of waste discharge to state waters, are performed correctly. This provides some faith in the reliability of the data being generated, and we are now in the seventh year of this project. The hazardous waste evaluation program is an interagency agreement with the
Department of Health Services, and the purpose of this program is to screen hazardous waste collected from dump sites and work sites by the Department of Health inspectors for toxicity, and Dr. Collins touched on this this morning. We use bioassay tests using fish as a routine approach, and then using results of our testing, some enforcement actions have been successfully concluded by departmental services recently. Under an interagency agreement with the Department of Food and Agriculture, we're involved with the chemical control of Hydrilla, a plant in the Imperial Valley irrigation canals. Our interest in this project is to assure that fish and wildlife are not seriously affected by the treatment. The project involves on-site monitoring before and after treatment applications, an examination of biaccumulation of selected herbicides in fish that are subjected to repeated treatments. We have a small little research station near El Centro. Each year the Central Valley Regional Water Quality Control Board enters into an interagency agreement with us to conduct projects involving investigations of toxic waste ethylenes, largely from municipalities and industrial waste. This year we started work on central valley agriculture drains. We're looking at the Colusa Drain in particular. It's been the site of many fish kills in recent years, and we're trying to identify the cause. Under another interagency agreement with the San Francisco Bay Regional Water Quality Control Board, we are looking at clams and mussels from selected shellfish beds in San Francisco Bay to examine for selected inorganic and organic contaminants, and the purpose is to eventually determine their suitability for sport harvest. In closing, I wish to emphasize the Department of Fish
and Game has vigorous programs dedicated to the protection of fish and wildlife from the effects of toxic substances. The programs involve enforcement of the antipollution statutes in the Fish and Game Code, as well as conducting studies, either independently or under interagency agreements, to further our knowledge on impacts of toxic substances. We believe our programs are germane to today's issue and we seek your committee's support for their continuation. Again, the Department appreciates this opportunity to appear before your committee, and we look forward to working with you. If you require any more information about our programs, I would be glad to furnish it to you.

CHAIRWOMAN TANNER: Thank you very much. Our final witness will be Mary Nichols, the Chairwoman of the Air Resources Board.

MS. MARY NICHOLS: Good afternoon, I am Mary Nichols; I am Chairwoman of the Air Resources Board and Special Assistant to the Governor in Environmental Protection. I have prepared testimony here. I'll try to omit parts of it that I think are purely repetitious of things that other people have already said. At the outset, we at the Air Resources Board really didn't know the extent of the risks posed by exposure to airborne toxic substances, nor were we sure how these risks compared with the risk of exposure by other routes. The Air Resources Board is a relative newcomer among the state agencies, many of which have been involved with toxics for many years. The Air Resources Board first initiated a series of studies to assess the extent of the hazard of airborne toxics in 1977. We convened a volunteer panel
of physicians and scientists to examine the problem of airborne substances that cause cancers. After 18 months of deliberation, this panel produced a report in early 1979, which recommended to the Board an action program aimed at controlling airborne substances which cause cancer. These recommendations, which were widened to include other effects of toxic substances, especially birth defects, were then used as a basis for formulating the Air Resources Board's current toxic substances control program. Starting with this fiscal year, we're moving ahead with a standard setting phase leading to a strategy for bringing the air emissions of key toxic substances under control. The first of the key toxic substances of concern to us has been vinyl chloride, which is a cancer causing substance used in the manufacturing of plastics. The Air Resource Board established an ambient air quality standard for that substance several years ago. The standard was, in fact, the first ambient air quality standard to be set in this country that specifically limited community exposures to an air pollutant that causes cancer. We are now grappling with two other substances that are of great concern in causing cancer but are very difficult to control because of their widespread use. These substances are asbestos and benzene. Asbestos, which causes lung cancer, is a very common material used in construction for fireproofing and used in vehicle brake and clutch lining. I am sure you can appreciate the problem of controlling a substance that's already in the community in such widespread use. Benzene, which causes leukemia, is similarly a very common chemical which is used in many industrial processes. It's a kind of a building block molecule which is used
to produce plastics, drugs, solvents and other important chemicals. It's also found in gasoline and other petroleum products which occur naturally. Other substances of concern to us are released from small numbers of localized sources, such as chemical plants and high volume manufacturing plants. Halogenated solvents, for example, are very powerful cleansers and are used in such processes as industrial product degreasing or in dry cleaning. Many of these substances are at least suspected of causing cancer and will require further investigation to determine if their use may be hazardous.

Here, regulation will be simpler, perhaps administratively, because of the smaller number of sources but, nonetheless, highly demanding from a technical point of view. In a somewhat different category, we are also looking at pesticides. We know that exposure to many of these may lead to cancer and birth defects. Community exposure to pesticides is not now regulated either by the local air pollution control district or the Air Resources Board. The pesticides do require consideration because of the way in which they are applied, that is, by spraying from airplanes, which causes them to drift into adjacent fields or even into residential areas where the public is exposed. In these areas, of course, pesticides would come under the control of our agency. Another category of substances, whose control is new to this agency, is a set of substances known as polychlorinated biphenyls, or PCB's. These are the oily liquids that have been used to cool electric power equipment, such as transformers and capacitors, used by electric utilities. Their extreme toxicity has led to discontinuation today of their manufacturing use, but now they have to be disposed of. There have recently been some spectacular failures in attempting to get rid
of PCB wastes. Environmentally safe disposal is a very difficult problem to which this agency has felt that it must pay close attention. One of the problems is that these substances not only are toxic themselves, but inevitably contain contaminants that are even more toxic. One of the recent plans for disposal of PCB's is incineration, which puts into the air any unburned material and any products formed during combustion. A careful scrutiny of such a scheme is presently being carried out, and this agency will require adequate safeguards for any such method of disposal. This is referring to the incident at McClellan Air Force Base. The last class of substances that I want to mention for control consideration by this agency is toxic waste. This category includes consideration not only of what can be recycled through industrial processes, but also the typically notorious outcome which has often been simply a waste disposal dump in the ground. We've heard a lot recently about water pollution caused by various Love Canals around the country, but the air emissions from this sort of source can be a tremendously varied mess of substances. They can be difficult to characterize chemically and some are very toxic, and, ultimately, relatively large areas and large populations can be affected as these substances evaporate into the air. Hazardous waste disposal practices in the future must be designed to eliminate the release of toxics to the air, as well as to the groundwater, and here, just as I can divert from the text for a minute, we recently had the example of the String Fellow Dump in Riverside County where the Air Resources Board, at the request of the Governor's Toxics Coordinating Council, went in
and tried to do some air monitoring in the vicinity of that dump. That is an abandoned hazardous waste site, as you know, and at the time that we went in to do the monitoring, this is many years since the facility was closed, we were not able to detect much in the way of additional emissions coming off of the dump. But we hadn't really expected that because at the time that the air emissions occurred was 20 and 30 years ago when all of the substances, the DDT, the solvents and the other toxic waste, were put into the site. Most of these materials are in solvents and they are highly volatile, so that all of the emissions that were going to come from those plants into the air could at about the time that the dumping was occurring, but at that time people who were working in the vicinity of the dump or who live in the immediate area were exposed undoubtedly to very high levels of air emission. An important part of the Air Resources Board Toxic effort is our Extramural Research Program. Ongoing research projects include an investigation of toxic substances released by burning agricultural waste. Another example is an investigation of toxic effects of particles emitted by power plants which are fired by oil and coal. Plane research projects are of variously exposed populations to detect evidence for airborne exposure as a cause of cancer, and a project to develop more sensitive methods for assessment of human exposure to toxic substances. A major research program to estimate the amount of key toxic substances emitted to the air in localities throughout the state is now in progress. Actual measurements of some airborne toxic substances, especially vinyl chloride, have already been made. An extensive program to measure levels of airborne toxics is being
readied for implementation. The initial thrust of this monitoring is of toxic waste disposal sites. Each local air pollution control district in this state has the authority and responsibility to control emissions of air pollutants from all stationary sources in the district, subject to oversight by our Board. Regulation of toxics, therefore, can be accomplished pursuant to the general authority that already exists in both local air pollution control districts and the state Air Resources Board to control air pollution from stationary sources, but it is crucial to keep in mind the role of the local air pollution control district. One other important finding has emerged from our initial assessment of the toxic problems. By far, the greater portion of the substances we are concerned about come from stationary sources, not mobile sources. This means that under the current statutory framework an extremely heavy regulatory burden must be assumed by local and regional air pollution control districts. In other words, local technical staffs will have to be trained to sample and analyze the air for perhaps dozens of new chemicals, new laboratory facilities designed to handle toxic substances safely, and in some cases sophisticated new laboratory equipment may be required to monitor and enforce regulations that will limit community exposure to toxics. The local districts are now coming to the Air Resources Board to ask where they are going to find the additional resources that they will need to implement their own efforts in this toxic area. Your committee may wish to give some consideration to mechanisms for providing further funding directly to local districts, or perhaps to establishing regional laboratories that can provide at least a portion of the necessary
analytical services to the small local agencies. Deciding the goal of what constitutes clean air with regard to each pollutant or toxic air emission is solely vested in the Air Resources Board when it sets ambient air quality standards. Our Board has direct authority to control only the mobile source emissions, however, such as automobiles, trucks, etc.; thus, it is up to the Air Resources Board to control the mobile source emissions in the local districts to make sure that the stationary source emissions are controlled, so that we make, together, reasonable progress toward achieving the standards that our Board has established. In addition, our Board, of course, is charged with conducting research into the causes of and solution to air pollution problems, and has broad regulatory authority by being specifically charged with coordinating, encouraging and reviewing efforts of all levels of government as they affect air quality. I think that these remarks have emphasized the complex nature of toxic substances control as it's viewed by our Board. I would strongly emphasize and support the importance of extensive and intensive coordination of all the state and local agencies in achieving control of toxic substances. The Governor's Toxic Substance Coordinating Council has certainly been an important first step in assuring this degree of coordination, but I think it may well only be a first step in that direction. Thank you very much.

ASSEMBLYMAN FELANDO: How much was the Air Resources Board involved in that study that SKAG did on the off-shore airport outside of Los Angeles Harbor?

MS. NICHOLS: The Air Resources Board was not involved in
that study at all.

ASSEMBLYMAN FELANDO: Was the AQMD at all?

MS. NICHOLS: I am not certain about that. I don't imagine that they were directly involved.

ASSEMBLYMAN FELANDO: This doesn't relate to the subject; I'm using committee time for something that maybe you and I can discuss later.

MS. NICHOLS: I'm familiar with the fact that they did a study. I asked for a briefing on the study and was shown the study after it was already done. At the time, SKAG staff told me that they had done an air pollution study of their own in which they had determined that this off-shore airport was acceptable, but they didn't submit that to us for review.

CHAIRWOMAN TANNER: The purpose of this hearing today was to get an idea of what each agency is doing, and what is available. We're planning a hearing on October 16 in San Pedro and this will deal with the issues relating to hazardous waste and dump sites. We're going to look at the possibility of new sites, or the need for new sites, or we're going to try to get information regarding dump sites, and we will possibly visit several sites, and you're certainly invited to attend. Thank you very much for the information you've given us. There will be a great deal of reading that we have to do, a great deal of studying. All of the members of the committee are very excited about moving forward, and we certainly are going to call upon you for an awful lot of assistance. Thank you for being here.

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