COMMONWEALTH OF PENNSYLVANIA
HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON TRANSPORTATION SAFETY

IN RE: EMISSIONS INSPECTION

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STENOGRAPHIC REPORT OF HEARING HELD IN ROOM 418 MAIN CAPITOL BUILDING, HARRISBURG, PENNSYLVANIA, ON TUESDAY,

FEBRUARY 25, 1992
10:00 A.M.

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HON. KEITH R. McCALL, CHAIRMAN

MEMBERS OF SUBCOMMITTEE ON TRANSPORTATION SAFETY

HON. DICK L. HESS
HON. JOSEPH F. MARKOSEK
HON. GREGORY M. SNYDER

ALSO PRESENT:
HON. PETER J. DALEY II
HON. RICHARD HAYDEN
ROBERT J. HOLLIS, EXECUTIVE DIRECTOR
NORTHEAST DELEGATION
PAUL LANDIS, MINORITY STAFF DIRECTOR
PAUL PARSELLS, EXECUTIVE DIRECTOR, HOUSE TRANSPORTATION COMMITTEE

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CHAIRMAN McCALL: The hearing of the House Subcommittee on Transportation Safety will now come to order.

Allow me to welcome my distinguished colleagues. To my left is Representative Hess who is the Minority Chairman of the Committee.

In the back row we have Representative Markosek. Paul Parsells who is the Executive Director of the House Transportation Committee. And to my extreme right Representative Dick Hayden who is doing some legislation on the Clean Air Act Amendments also.

The purpose of this public hearing is to explore the impact of the Federal Clean Air Act of 1990 as it relates to Pennsylvania in one specific area.

As most of us know the Clean Air Act of 1990 impacts on all of us in many different ways. However, the charge of this Subcommittee is to analyze and define how the issue of mobile source emissions can be controlled and reduced in order to meet Federally mandated guidelines.

The Clean Air Act Amendments, otherwise known as the Clean Air Act of 1990, was signed into law on November 15, 1990. Section 103

of the Act addressed automobile hydrocarbon and nitrogen oxide emissions creating new Federal auto emission standards. Section 101 of the Act outlines a time frame for implementing the legislation.

The Environmental Protection Agency was given nine months from the date of passage of the Act until August 15, 1991, to develop and issue minimum standards for inclusion in State auto emission plans.

States then had up to one year to develop and submit new proposed standards to EPA that incorporated these new criteria. While states are generally expected to comply with the Federal standards the Act includes criteria for seeking exceptions to the new Federal guidelines. EPA then has up to six months to review State plans and determine whether or not they meet EPAs new minimum standards.

New State auto emission plans are expected to be implemented no later than two years from the date of enactment of the legislation, or November 15, 1992.

Currently annual auto emission tests are required in only eleven counties. These tests

are performed at State authorized motor vehicle inspection stations, typically gasoline stations and auto repair shops at a State regulated price of eight dollars for each test. However, as a result of the Clean Air Act of 1990 an additional twenty-two counties have been included to require emission testing. That is a total of thirty-three counties, nearly half of the entire State.

Governor Casey has recently written to William Riley the Administrator for EPA urging his governmental body to adopt the necessary regulations in order that Pennsylvania may begin implementing at the State level the necessary requirements of the new Federal law to assist the nation in cleaning up its environment.

Federally established deadlines have been missed which is of great concern to Pennsylvania in that we risk the loss of millions of Federal highway money if we do not comply by a certain date established by the Clean Air Act.

Today this Committee hopes to identify what it is that Pennsylvania has to do in the mobile source area to comply with the Federally mandated requirements, and in what time frame Pennsylvania must act.

Pennsylvania does not want to risk losing millions of highway dollars because we have not complied with the new Federal program.

You will be hearing today from a host of individuals who are experts in their particular fields. And I want to thank them all in advance for taking time to participate in today's proceedings.

With that I guess I should introduce myself. I am Representative McCall the Chairman of the Subcommittee for today's hearing. And I would like to call upon Al Wevérstad, General Motors, Director, Emission Compliance Activity, Motor Vehicle Manufacturers Association of U.S.

MR. TITELMAN: My name is Bill Titelman. I want to thank you for being with us for the delay as we set this up.

I'm an attorney and a partner in the firm of Klett Lieber Rooney and Schorling and I'm here today representing the Motor Vehicle Manufacturers Association of the United States.

With me today is Allen Weverstad, Manager of Emission Compliance Activities for General Motors Corporation, and Nancy Hofmeister who is with Fuel Economy and Emissions Control

Planning, Ford Motor Company.

These people are here today on behalf of the Motor Vehicle Manufacturers Association of the United States. They are both automotive engineers.

Before they begin I would like to mention one or two facts just for your information. It is generally believed that the automobile industry is not a significant factor anymore in the economy of Pennsylvania.

You should be aware that the aggregate number of manufacturer employees, those are employees who are employed directly by the major American Automobile Manufacturers here in Pennsylvania, numbers over 6500 today.

The aggregate number of supplier locations from which they purchase goods and services and supplies in this State is over 2000. And the aggregate volume of purchases by the Automobile Industry from the State of Pennsylvania is over $3 billion per year. So I would just point out that the automobile industry is still a significant factor in the economy of the Commonwealth of Pennsylvania.

I'll ask Al Weverstad from General

Motors to begin his presentation.

His presentation takes approximately twenty minutes uninterrupted, but he is pleased to answer questions as he proceeds, so feel free to interrupt him if you wish.

MR. WEVERSTAD: Often times it's better if you see something that I haven't explained properly to ask a question at the time. I don't mind that. So with that, let's begin.

First of all, this is a very basic slide and I apologize to those in the back that can't see it, but what we have here is a slide on the problem that we're talking about today and its ozone. And it's not to be confused with the ozone that there's a hole at the poles in Antarctica and potentially one at the North Pole.

This is low level ozone. It's an eye and lung irritant and it occurs, it's not directly emitted by anything. It comes from hydrocarbons and NOX which are pollution given off by automobiles, stationary sources and natural sources. But it occurs when hydrocarbons and NOX are in the atmosphere in the presence of sunlight then ozone is formed. It goes away at the end of the day but it is formed in the presence of

sunlight.

So one of the factors in ozone formation in addition to manmade and natural sources is the amount of sunlight that we get. One of the reasons that California's data is far different than Pennsylvania.

Here's a slide taken in Folcroft, Pennsylvania, which is in the Philadelphia area, which is from 1988, the hottest month in 1988, which was July. 1988 is an important year because it was a high year because it was very warm. And as you can see this line going across is the ambient air quality level that Federal EPA wants us to achieve, and the line is that data point during the summer.

You can see it occurs on all days and because of that we would expect that it is sunlight related and is why Tuesday didn't have any non-compliances, etcetera, and Sunday did.

What is your problem and how do you compare it to Southern California?

I'm going to focus primarily my discussion on the California vehicle. There's a lot of discussion about the California vehicle and that is one of your alternatives.

We think it's an expensive alternative that you don't need to take right now, and hopefully we will explain to you why you wouldn't want to do that.

What you see plotted here is the frequency of ozone exceedencies. This is the amount of days in which at least one hour exceeded the .12 parts per million requirement.

On the left side is plotted California for 1988. On the right side is plotted Pennsylvania.

The intention here is to show you that in California 125 occurrences is a normal year. Whereas in Philadelphia, which was the worst location in the worst recent year, there were less than twenty-five. In fact I'm going to show you numbers here shortly that in 1991 the worst location in Pennsylvania had nine occurrences.

Those nine occurrences, each occurrence is approximately two hours long on average. So you had eighteen hours out of 8,740 hours that you had a non-compliance. The difference is dramatic.

It's about seven times as frequent in California and the level is over twice as high of

ozone concentration in Southern California as you have here in Pennsylvania.

Now that's not to say that any red on that chart is acceptable. We recognize that we're part of the problem, we want to help in the solution, but what we want to do is apply the most appropriate solution to the level of problem that you have.

What we've plotted here is some data also from 1988. The red line is 1988. The green line is 1989 in the very same location. And as you can see from 1988 to 1989 the ozone level, and this is the concentration of the highest reading, dropped in every case. And it dropped to the point where you only in 1989 had two locations in the State that had any ozone exceedencies. Philadelphia and Pittsburgh. And the amount of non-compliance has reduced from .2 to the worst at that time which was about .16.

I apologize for this next slide. The next slide is fairly detailed and busy but we just received it and we didn't have a chance to replot it. But let me point out the significant things.

Over here is the number of exceedencies in a year and over here is the level

of the exceedents. This is the worst location that you have in Pennsylvania. Bristol was the worst location. In 1991 there were nine exceedents.

The next worst location was Chester which had three. And there were two locations, Norristown and Scranton that had two. No other location had more than one.

The level, if you remember what we plotted in 1988 was .20, is now down to 144 as the highest level. Keeping in mind that the standard is .12.

What has caused this improvement? Primarily two or three things. Number one. 1988 was an extremely hot sunny year. It exaggerated the normal condition. If we plotted ozone over a long period of time you would see that the highest years were in the early '70s and it has been reducing ever since. There was a blip in '88 but it's more weather related than anything else.

The second thing that happened was RVP control. The oil companies implemented re-vapor pressure control, which is the volatility of the fuel, the tendency for it to evaporate. That was reduced and there was less evaporative emissions

and that showed up in the levels.

And the final thing is the turnover of the vehicle. As we remove the old pre-1982 vehicles from the fleet emissions are coming down naturally.

Furthermore, in 1990 the Clean Air Act was passed that reduces exhaust emissions from vehicles one more time. At the present time from unregulated levels the automotive industry has reduced hydrocarbons 96 percent. The Clean Air Act will make us reduce it to 98 percent. So we're shaving away at the last fraction, and we all know that that's the most difficult fraction and the most expensive.

We have a second chart of other locations but they're all zero so there's no need to talk about that.

Based on 1988 data which goes away sometime during this year, this is the areas of non-compliance, the worst area, the most severe is in the Philadelphia area in the south. The rest of the areas are relatively clean with attainment dates in 1993 and 1996 as planned. And it appears that with the normal turnover of vehicles you're going to be very close to achieving those targets.

You have until 2005-2007 in Philadelphia to bring that into attainment.

This shows the clean fuel low emission vehicle rollout by county in the state and this as a time line. These are when these counties need to be in compliance. 1993 is for all of the counties in blue. 1996 are the counties in brown. And the 2005 are the counties in red.

I would like to point out that the California vehicle option begins in 1993, but with only ten percent of the new vehicles sold being transitional vehicles. These are not true low emission vehicles but they are reduced over the Federal standards, and they're only ten percent of the new vehicles sold.

In 1996 you get the first official low emission vehicle and then only twenty-five percent of the vehicles sold. And at our present selling rate that's not a big impact unfortunately for all of us.

The point of this slide is to say that these counties will absolutely see no benefit of low emission vehicles because they won't be in sufficient number to impact the air quality. And these counties have plenty of time, particularly

if you waited the first few years without California low emission vehicles you are allowed, to jump into the program at any time in progress.

So our point out of this is that the area that needs it you have time to introduce it. The other areas are going to be in compliance well before that.

What is this California program and what is the status of the program?

One of the things we'd like to point out is that the California program that we talked about is not fully defined today.

This is a time line chart of when they were supposed to have things done and how they are going. They have set the numbers and the numerical standards have been set and have been reviewed.

They have said that they're going to adopt clean fuel, but they haven't defined what the clean fuels are. They haven't defined what the reactivity adjustment factor is, which is a technical term, it's a multiplier that multiplies the tailpipe number times this number to get you the ultimate results. So we don't have one of the most important factors, the reactivity adjustment

factor yet. They haven't reviewed that.

California recognizes this program was technology forcing. They said that we know that its not done presently but let's force the technology, but as a safety valve we will have a comprehensive program review twice before introduction of these vehicles.

The first one was to be held this spring. California has delayed that until this November for a lot of reasons. One of which is to obtain more data as to the technological feasibility of this program.

At the present time California has petitioned EPA for a waiver to allow them to have different than Federal standards. That waiver hearing was held last week. It is not expected that EPA will rule on that until sometime this summer. So at the present time there is no approved California program and it's not fully defined.

Signing up for the California program at the present time would be essentially signing a blank check.

Now this next slide tells you what benefit you might achieve from this on a vehicle

basis, but this is the numbers that the proponents of this type vehicle would present to you; not us. Our feeling is that this probably overstates the benefit, but even with that there's not much benefit.

What you see plotted here is the vehicle produced in 1988. This is the number that is multiplied times the vehicle miles traveled to give the total inventory to the atmosphere of VOCs or pollution. And in 1988 it was 3.65 grams per mile. 2.59 of which were due to evaporative emission, refueling losses or vapor losses on the vehicle.

I would like to point out that this particular part of the pollution is not included in the California plan. The Federal plan and the California plan are identical for this portion of the chart. The tailpipe emissions was what's left.

So if you go to 2010 when all of these vehicles will be fully in place, if Pennsylvania and other states allow the Federal Clean Air Act of 1990 to go forward, the vehicles will have their pollution reduced 88.5 percent. So by doing nothing the vehicles will contribute

88.5 less on a vehicle mile traveled basis.

If you go forward with the California program the proponent states that you'll gain another percent and a half improvement.

We think that that might be an overstatement, but certainly additional percent and a half improvement is not going to be without cost. And that's what our next slide will show.

The cost of this program according to an outside consulting group from the University of Michigan called the Automotive Consulting Group, from our standpoint they picked a terrible name. It sounds like they work for us, but in fact they are associated with the University of Michigan and are a totally independent group, went in and said let's guess the cost or the price to the consumer of the new technology required to meet these standards. And at the time they did the study California said all you need to do is add an electrically heated catalytic converter to the program.

DEC is what the State of New York says it will cost for these components, and they estimated a cost at $290. The Automotive Consulting Group estimated the cost at $1000. Our

estimates are probably a lot closer to the ACG because they left out certain things to have this electrically heated catalyst.

The way the system works, when you get in your car in the morning and start the engine most of the tailpipe pollution occurs while the catalytic converter is warming up to temperature. So the intent of an electrically heated catalyst is to take a battery and energize the catalytic converter in twenty to thirty seconds.

What it's going to do is take the catalytic converter temperature from whatever ambient it is, maybe ten degrees, and raise it to 600 degrees in twenty seconds. So you can recognize that's going to take a lot of energy. We need another battery to do that.

It's going to take wiring and cable to get that down there. It's going to take not an extra alternator but a bigger alternator. It's going to take a remote starter.

We at General Motors have had a lot of experience with diesel engines in the early '80s with glow plugs. And anyone that's ever owned one of those vehicles can say boy I hated it when I got out there in the morning and I saw this little

light that said wait to start. Nobody wants to wait even twenty or thirty seconds to start. We want a push button start when we come out the door. When you add up those component costs it's a thousand dollars.

Now I also would like to point out that at the waiver hearing the State of California admitted that it's going to take more than a electrically heated catalyst to meet their numbers.

The electrically heated catalyst is a good start and the biggest component, but it's going to take additional costs and additional hardware besides that.

Now what will that cost do to us in the business, dealers and the air quality? The same consulting group said that if you raise prices a thousand dollars you're going to lose another ten to fifteen percent of sales.

That impacts us from a bottom line standpoint. It impacts you from a sales tax standpoint. And it impacts dealers that may be what's keeping them in business now. And it will also impact air because those cars that aren't bought will be the ones that actually continue to clean up the air.

Now what is the benefit of the program in our opinion? What we have plotted here is the total fleet. This is the grams per mile that you would multiply by and it's plotted from 1995 through 2010.

It includes a couple of assumptions. It includes the assumption that there still is a pollution problem in the year 2003 and Federal tier two standards kick in.

We think that's a fair assumption because if you need a low emission vehicle program you obviously are going to be out of compliance and would need the tier two standard.

The tier two standard is a default mode. EPA must go forward with tier two unless we can prove that it's impossible to do or it's of no benefit. And in either case we don't think that's a likely outcome.

So if you take a look at the green line that's what happens to the inventory if you do nothing and let the 1990 Clean Air Act take its place.

The red line which you can see a little bit below here and a little bit above there, is what would happen if you take the

California program and assume it deteriorates at the rate that EPA, who I might point out is the ultimate judge on this, would expect. It's essentially the same line. And the blue line is the deterioration or the aging process that California anticipates.

In order to prove the benefit of the program California said that not only will you make the emissions better when you start the vehicle, but you will develop technology that makes it age more gracefully. We don't think that's possible.

Now that outcome doesn't make a lot of sense because you drop the tailpipe standards in half and in half and you don't see any benefit. How could that be? So I'll try to give you some background.

One of the things that I will point out is that in the entire, there's a word called ROMNET, it stands for Regional Ozone Model, Northeast Transport. It's a mathematical model that EPA conducts that tries to predict what kind of ozone will happen in the future.

Remember that we don't give off ozone from vehicles or from stationary sources; so you

need a math model to try to predict it. It's a very complicated model and it's a model that is constantly being improved. In fact there's going to be a major step taken hopefully this summer as they upgrade it.

If you take a look at the 1985 inventories over the entire region the VOCs come from a lot of sources as we pointed out. On an average over the Northeast Region fifty-six percent of the VOC's come from natural sources. They come from trees. They come from swamps. But obviously there isn't anything we can do about that and there's nothing that we want to do about that. And also in urban areas that ratio changes.

So for purposes of this evaluation we're going to assume downtown Philadelphia and there the natural contribution is far less. The natural contribution of downtown Philadelphia is about twenty-six percent. Seventy-four percent of the precursors or of the pollution is manmade.

Of that seventy-four percent, thirty-four percent of that is from highways, mobile cars and trucks. Forty-percent is from factories, stationary sources.

So we're thirty-four percent of the

problem in the urban area: less in the more rural areas. But of that, as we pointed out earlier, we're only a portion of it as the California law emission vehicle aimed at. Twenty-five percent of the mobile contribution in 1985 was from evaporative emission of the total. And only 8.8 percent was from exhaust tailpipes. So this emission standard is aimed at only 8.8 percent.

Now the real question would be not what it was in '85, but what's it going to be in 2010? How much would these low emission vehicles impact the year 2010?

So we take those numbers that we plotted before. We keep the natural sources the same, the total contribution, it ends up the percentage is larger but the percentage is larger because everything else is reduced. So if you keep that constant and you reduce the total pie the natural becomes a bigger percentage.

So that in the year 2010 assuming that we've been successful half the pollution will be from natural sources in Philadelphia. Thirty-three percent will be from stationary sources. And eighteen percent will be from mobile sources.

Of that eighteen percent, fourteen

percent is evaporative and only four percent is exhaust.

Now when you take into account that of the exhaust there is reformulated gasoline impact and there are vehicles, only new vehicles meeting the standard for this impact, Pennsylvania in 2010 any benefit that we showed for low emission vehicles is multiplied by this. Tailpipe contribution is only 1.4 percent.

So if you have a seventy-five percent improvement in emission standards, you take seventy-five percent times 1.4 percent and that's the impact on the total VOCs.

So the summary of that slide is that if the left program is adopted Pennsylvania will spend additional dollars for each car, about a thousand dollars a car. They'll spend additional dollars for fuel.

We've calculated the fuel economy loss for the added weight and the additional electrical load, and the cost of the reformulated gasoline over the useful life of the vehicle will increase the owner's cost another $1400.

So the owner of these new vehicles are going to be faced with almost $2400 additional

cost to gain less than two percent. In fact to gain less than one percent in the total VOC inventory.

Now there are other ways to achieve the benefits needed and our suggestion is that the State of Pennsylvania look at all of them and pick the ones that are most appropriate and easiest to implement for you.

For example, in 1990, thirty-five percent of your cars were driven only twenty-six percent of the miles. These are the vehicles older than 1982. But they contributed nearly two-thirds of the hydrocarbons and VCO's and over half of the NOX. So the problem is old cars. And those old cars are going to filter out of the fleet on their own. Hopefully there are ways we can accelerate that removal from the fleet, but they will filter out of the fleet.

We think that the California vehicle is like salting your food before you taste it. We think that if the Clean Air Act is allowed to run its course, with your level of non-compliance you will be in compliance with other processes well in time and you won't need to do this.

MR. TITELMAN: Al, I'd like to

interrupt you with a question if I could.

MR. WEVERSTAD: Sure.

MR. TITELMAN: As you said the other day to me, that the effect of removing one pre-1982 car from the road.

MR. WEVERSTAD: Yes, let me give the number. One of the things we calculated was what is the benefit of this reduced tailpipe number vehicle in 2010 over a Federal vehicle? Then we compared that to removing one pre-1982 vehicle from the road.

It ends up that it will take 122 low emission vehicles to equal putting one pre-1982 car on the road. So we've got to do a lot of car sales in order to impact removing these old cars.

What happens if you wait two years and then decide we've got a problem. We need to have these California cars?

Well first of all you jump into the program in process. You would begin at twenty-five percent LEVs. You would miss the first two years of TLEVs, ten percent and fifteen percent of your sales. And what would the impact be on the total inventory? You can't calculate the difference. The impact is so small because of the

phase-in that there would be absolutely no difference at all.

That's it. We'd be happy to answer questions. We would also be happy to come back again, go through details.

We've worked with the DER. Found that they're very helpful and very positive people. We will be happy to continue that process.

MR. TITELMAN: Al, could you briefly comment on the Industry's position with respect to the enhanced inspection and maintenance program?

MR. WEVERSTAD: Our feeling of that enhanced inspection and maintenance is as EPA pointed out, more cost beneficial than going to a low emission vehicle program. And it's a good way to remove some of the polluting vehicles or at least identify them.

What we think you ought to do though is look at the benefits that you need and then look at what benefits are possible, and what costs are associated with it and then pick the right solution to your level of problem.

You really need to know where you're going to be in '93 and in '96 from a pollution level standpoint. And you need to know what the

impact of each of these potential solutions are. And then choose the right hammer for the size nail or the size problem that you have. Don't hit it with a sledgehammer if you can hit it with a tack hammer.

MR. TITELMAN: Al, one other thing I'd like you to observe on. What's happened, what is it that has happened to the aging of the fleet as a result of increasing costs of automobiles over time?

MR. WEVERSTAD: We looked at that and part of the reason that we're not as successful a company as we used to be is that people hold onto cars a lot longer.

In 1970 one percent of the vehicles were fifteen years or older. In 1990 eight percent of the vehicles were fifteen years or older.

We like to think that it's because we build our cars a lot better and they last a lot longer; but realistically it's because people can't afford them as well as they could in the past.

CHAIRMAN McCALL: Questions? Dick.

REPRESENTATIVE HESS: You raised and I think EPA also raised the issue about retiring

older cars.

I live in the City of Philadelphia. An environmental group, The Clean Air Council, sued Pennsylvania for failing to comply with ground level ozone under the 1977 Act. The case has been kicking around but during the course of the negotiations over a consent decree, this was not an attainment issue, one of the issues being discussed was in fact the issue you mentioned, which is retiring older vehicles.

The information that this attorney got from PennDOT for the five county Philadelphia region, which was the subject of the suit, showed that since November of 1990 there were 26,400 cars registered that were pre-1970. The total cars that were pre-1981 were 417,000 cars.

It seemed like a pretty high number to me and if you use your figures here, that it takes one pre-1980 car in terms of your actual emissions offset that you're going to get, you're going to need 122 California low emission vehicles.

It would seem that a program which would effectively help to remove these cars from the road would get you 1993 credits toward ozone attainment at a much more efficient rate than the

adoption of the California LEV car.

My question is have the Automobile Manufacturers Association either as a trade association or as individual companies figured out a way to help underwrite the removal of those cars from the highway?

I'm aware of one program funded by one of the oil companies, I guess UNICAL in Southern California, which went into a very successful voluntary program where UNICAL, and I think there were other oil industry folks who put up the money, but the demand for, I think it was around $500 per car, far exceeded the amount of money that they dedicated for that fund. So I'm wondering if the manufacturers have figured out a strategy perhaps to help us here in Pennsylvania help retire these cars?

MR. WEVERSTAD: We have wrestled with that internally just slightly. There are some problems associated with that for automobile manufacturers primarily because if we put a $500 bounty on it the administration of that program is something that would be difficult for us to do.

It would obviously have to be--

REPRESENTATIVE HESS: We could

administer it here.

MR. WEVERSTAD: It would have to be done by the DMV. The second problem that we have is that we like to sell new cars and it's hard to associate removing one of those old cars from the fleet and getting a new car sold. But it makes good sense and we talked about it this morning.

I'd like to take a pass on it for the present time and take it back and review it with the Motor Vehicle Manufacturers Association and see what we can come up with. I think it's a good suggestion.

REPRESENTATIVE HESS: Thank you.

CHAIRMAN McCALL: Al, isn't the major difference in the California car a heated catalytic converter?

MR. WEVERSTAD: At the present time if you believe California they say that was the item that you needed to meet these standards. At the last waiver hearing they said well it's going to take more than that.

I would point out that no one has ever been able to show that they can meet these emission standards for the hundred thousand mile requirement of the law.

It ended up that the standard not only was reduced, but that the length of time was doubled.

California has one vehicle that has gone 7000 miles that meets the hydrocarbon standard but fails the NOX standard. That's the best data that exists.

CHAIRMAN McCALL: And you spoke to reformulated fuel. Is that oxygenated fuel?

MR. WEVERSTAD: No, not necessarily. Reformulated fuel defined by Federal EPA is a fifteen percent reduction in mass in the year 1996.

Essentially cars are going to produce emissions. It's you are what you eat. Depending on the type of gasoline that goes in the amount of pollution comes out the back differently. So Federal EPA has defined the reformulated gasoline to have a fifteen percent mass reduction in '96 and a twenty-five mass reduction in the year 2000.

It's expected that this is going to cost additional money. You'd have to ask the oil people exactly the cost, but my guess or my memory says its about ten to fifteen cents a gallon for tha

California has--

CHAIRMAN McCALL: What about the set-up of the car?

MR. WEVERSTAD: Pardon.

CHAIRMAN McCALL: What about the set-up of the car with that reformulated fuel?

MR. WEVERSTAD: The California Vehicle Emission System is designed to operate on California based two gasoline, which the oil companies call severely reformulated. It goes beyond, potentially beyond what the Federal twenty-five percent reduction is. And it's expected to cost maybe twenty to thirty cents per gallon.

The vehicle will operate on Federally reformulated gasoline, but we would not honor recall of that vehicle if it was used on Federally reformulated gasoline.

MR. TITELMAN: That's a twenty to thirty increase.

MR. WEVERSTAD: That's another twenty to thirty percent increase.

CHAIRMAN McCALL: But again back to the car. I just find it hard to believe that it could cost a thousand more dollars for a LEV or low emission vehicle car when it seems to me it's

just the catalytic converter that we're changing. How do we get to the thousand dollar figure?

MR. WEVERSTAD: Let me walk you through the numbers and let me tell you about how finite a slice we're talking about.

Remember I said the Federal Clean Air Act takes us from 96 to 98. The Low Emission Program takes us to 99.5 percent. So we're talking the very last fraction.

We're talking levels of emissions that first thirty seconds of operation of the catalytic converter. We at General Motors are working-- When you go to start you car this afternoon when you go home and you turn the key, the engine will turn over three or four times while the computer determines where the center is so it knows wnen to fire fuel and when to fire spark to light the match.

We're trying to make it so it will start on the very first revolution. We're talking about getting it to start to save you two revolutions on the cold start. Those are very very small improvements but they're very very expensive improvements because they're the very last ones.

Now electrically heated catalyst, the catalyst cost on there itself is only about $220 my recollection says, in that range. But then you need all of the attendant it takes to make that operate. You can't just put this on. You've got to run wire to it. You've got to put a battery in the trunk for it. You have to put a shield around the battery because no one wants a battery rambling around in the back.

CHAIRMAN McCALL: Do you really think it's necessary to put another battery in?

MR. WEVERSTAD: Absolutely. Try to envision something that's ten degrees and in twenty seconds you put energy into it and heat it up to 600 degrees Fahrenheit. Try to imagine it. We're talking on the range of 660 amps. It's a tremendous amount of energy to download into a device.

CHAIRMAN McCALL: What I'm getting at is that the bottom line with the California car is basically an enhanced catalytic converter.

MR. WEVERSTAD: An enhanced catalytic converter and there will be some other improvements. For example, right now we have throttle body fuel injection which is a fuel

injector that you still use as an intake manifold. That will be a thing of the past. We'll have to go to sequential torque fuel injection for every vehicle, so that will increase costs.

We'll have to go to ABITs ignition which is angle based ignition timing. So we'll have to know each degree of the engine's spinning so we know exactly what you want out of 360 possible degrees its at at any one time.

We'll need to know that cylinder to cylinder. And we'll have to be able to control air/fuel ratio very very closely.

In fact one of the things that we've seen in calibrating this is that the same calibration will make a car pass on one car, you put an identical car next to it, you pull out the hardware and put it on that car, it no longer passes. Car to car variation has to be non-existent to meet these numbers.

These levels of .04 grams per mile, it's going to even require a different emission lab because the level of emissions is so small we can't even measure it at the present time.

CHAIRMAN McCALL: You spoke of the evaporation being a major contributor to the grams

of VOC's. What about introducing a larger canister into the car, would that help?

MR. WEVERSTAD: Not necessarily. The point of that is that there are additional requirements for evaporative emission, and we're taking those.

There is a new test procedure. We're going to do what we call a real time diurnal program and we are improving the efficiency of the evaporative emissions canister.

But that program and the California program are identical. To have the Federal program or to have the California program, essentially you get the same hardware and the same program, and you're going to get that for free. The price of the car may change, but what I'm saying is the state gets it for free.

CHAIRMAN McCALL: Thank you.

MR. TITELMAN: I'd just like to make if I could one concluding remark on behalf of the Motor Vehicle Manufacturing Industry, and that is that there are many uncertainties in the California program. The magnitude of the problem now and in the future. The magnitude of the benefits, if any. The cost of the program.

We do know that there's a two year delay to study and will not adversely affect the potential benefit of the California program.

We know that the vehicle price will substantially increase approximately $1000. The cost of gasoline, twenty to thirty cents a gallon increase. Likely sales loss due to this increase, ten percent.

Of the fifteen percent, I remind you that Pennsylvania today employs over 6500 people directly in the automobile manufacturing industry. That there are more than 2000 supplier locations in the state aggregating over $3 billion in sales that will be impacted by such a decline in sales.

And there are other more immediate programs available which will be of far greater benefit, particularly the enhanced inspection and maintenance program and getting old cars off the road at a greater rate of speed.

I might point out that New York has legislation to get rid of old cars and that might be a good place to look.

Also the Ozone Transport Commission, there was a lot of talk about the thirteen states and the environmental executives from those states

agreeing with the California program. The fact of the matter is that if you look at the record of activity you will find that on the California program the states of Maine and New Hampshire are not expecting to take any action this year at all.

The Governor in Maine is backing away from the program. Vermont has voted in committee four to two against it. It's dead.

Massachusetts did pass the program. The current Governor is reconsidering it. There is a study requirement now which is to be completed soon.

Connecticut, the Governor there has held it off. There is a study going on there.

In New York while regulations are supposed to be introduced administratively this year, the Legislature is taking serious issue with it and one of the Senators has introduced legislation to require a two year study before any action can be taken.

New Jersey, although the regulation was introduced last week, the same questioning process by the Legislature is occurring.

Maryland is conducting hearings in February and March on the issue

Delaware and Virginia have both decided not to take action this year. The program was defeated in the Virginia Legislature. They both agree that there is not enough data to make a decision now.

In Rhode Island no action is expected this year.

Those are the states, the other states in the Northeast Ozone Transport commission. And I would point out that our industrially competitive states, states that we compete with for jobs, that our workers compete with for jobs, Illinois, Texas, Ohio, Indiana, West Virginia, Kentucky, Tennessee and North Carolina, not a single one of them plans action to go to the California low emission vehicle.

I thank you for your consideration.

CHAIRMAN McCALL: Thank you.

(The testimony was concluded.)

C E R T I F I C A T I O N

I hereby certify that the evidence taken by me of the within proceedings is accurately indicated on my notes and that this is a true and correct transcript of same.

Janice L. Glenn, Court Reporter