February 28, 2006

Ms. Sylvia Oey
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

SUBJECT: COMMENTS ON DRAFT EMISSION REDUCTION PLAN FOR PORTS AND INTERNATIONAL GOODS MOVEMENT IN CALIFORNIA

Dear Ms. Oey:

The Port of Los Angeles appreciates the opportunity to provide comments on the California Air Resources Board Draft "Emission Reduction Plan for Ports and International Goods Movement in California."

We found the report to be both a successful and necessary attempt to characterize the air quality impacts of international goods movement in the state, and to quantify emissions and health risks, at least at an order-of-magnitude level. The report was also useful to identify and evaluate a variety of potential mitigation measures. It identifies and discusses (in varying degrees of detail) most of the air quality issues associated with port operations and other components of the international goods transportation system.

In the attachment to this letter, we are providing general comments and requests. More detailed comments are located in the table provided in the attachment.

Thank you for the opportunity to provide comments on the draft Emission Reduction Plan for Ports and International Goods Movement in California. If you have any questions or need any additional information, please contact Paul Johansen, Assistant Director of Environmental Management, at (310) 732-3675 or pjohansen@portla.org.

Sincerely,

RALPH G. APPY, Ph.D.
Director of Environmental Management

cc: Geraldine Knatz
Attachment

RGA:PJ:jm
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Comments from the Port of Los Angeles on Air Resources Board's Draft
"Emission Reduction Plan for Ports and International Goods Movement in California"
Release Date: December 1, 2005

Background

The Emission Reduction Plan can be characterized in one of two ways, each requiring a different type of analysis and comment. The first way to view it is as an attempt to characterize the air quality impacts of international goods movement in the state, to quantify emissions and health risks at least at an order-of-magnitude level, and to identify and evaluate a variety of potential mitigation measures. If this is what the ARB intended, then the report is successful; it identifies and discusses (in varying degrees of detail) most of the air quality issues associated with port operations and other components of the international goods transportation system. It also contains a good deal of useful data.

The second way to characterize the document is as a "plan," *per se*. In that case, Port staff has identified some problems with it. Air quality impacts are local and regional. Although goods movement impacts occur throughout the state, the utility of analyzing them at the statewide level is questionable. Even assuming that the emission inventory values are correct, of what practical use is a statewide inventory, other than to underscore the fact that goods transportation is a serious problem? As the report acknowledges in the Executive Summary (p. ES-4), the real planning for reducing emissions from these sources will be at the local level, through the SIP preparation process. For example, the Southern California Association of Governments (SCAG) is about to begin developing an environmental mitigation plan for goods movement in Southern California. This plan will take into account local conditions, will involve local stakeholders, and will feed into the South Coast Air Quality Management District's 2007 air quality management plan (AQMP). Rather than spending more time on an emissions reduction plan for the state as a whole, the ARB would contribute more to the solution of the problem by continuing to conduct research on emission factors and emission estimation methods; identifying, evaluating, and disseminating information on mitigating measures; developing emission standards wherever it has jurisdiction; and expanding the Carl Moyer Program to cover the goods movement sector.

Recently, Roseville Rail Yard and Ports of Angeles / Long Beach (San Pedro Bay Ports) were the major focus of health risk assessment studies. The Port of Los Angeles (the Port) is committed to the goal of reducing emissions from various port related activities as expeditiously as practicable.

One of the major steps that the Port has undertaken was establishing a 2001 baseline emissions inventory for the five port related sectors:

1. Ocean Going Vessels,
2. Harbor Craft,
3. Cargo Handling Equipment,
4. On-Road Heavy-Duty Vehicles and
5. Locomotives.

It was reassuring to note that ARB staff used these estimates as the basis for the development of their statewide emissions inventory. Currently, the Port is working on updating the 2001 emissions estimates with 2005 activity data. Since the emissions estimates presented in ARB's report are draft and are to be used to support their clean air plan, it is requested that ARB staff work closely with Port staff to avoid duplication of effort and conflict at a later stage. In order to better asses the contribution of emissions from the Port compared to the rest of the state, and to make sure the 2005 updates are consistent with ARB staff's methodology, Port staff would like to obtain additional information on the following subjects and offer the following general comments and requests. Detailed comments are provided in the table following the conclusion of the general comments.

General Comments

1. The emission inventory uses a surrogate variable approach to estimate emissions for ports and other transportation locales where local inventories have not been developed yet. This is the approach commonly

used for area source[1] emission inventories. For example heavy-duty truck emissions for the San Pedro Bay Ports were associated with a surrogate variable (total annual tonnage throughput) to develop factors to apply to other ports. As a first approximation, especially under a tight time constraint, this approach is reasonable. However, it is possible that different surrogate variables, combinations of surrogate variables, and/or statistical relationships may provide more accurate estimates. For example, the truck traffic can be divided into several categories, each with its own surrogate. Thus tanker traffic would be related to petroleum volume throughput, and other types of trucking could be related to container throughput. The ARB has sponsored some research on surrogate variables for several emission categories;[2] perhaps similar analyses could be performed for goods transportation emissions.

2. The emission inventory effort should explore whether the South Coast Air Quality Management District's Rule 3502 (Minimization of Emissions From Locomotive Idling) will significantly reduce emissions from railroad operations at the San Pedro Bay Ports. At first glance, this appears to be a potentially significant mitigating measure, since it prohibits idling for more than 30 minutes. However, the exact phrase is "unattended idling." As long as a crewmember is present, the locomotive could idle for a longer period. Also, the provision does not apply if the engine is equipped with an anti-idling device that is set at 15 minutes or less. It will be necessary to find out what percentage of locomotives is left unattended as defined by the rule.

3. ARB has recently completed a health risk assessment for the San Pedro Bay Ports using the air dispersion model, ISCST3. Because the region under study covers large area, exceeding 50 km for the Ports, a more appropriate air dispersion model to use is CALPUFF. Distinctive meteorological data per each region is another feature that can be used in CALPUFF. Does the ARB plan to use CALPUFF to recompute the health risk?

4. The OEHHA guidance requires that a 70-year exposure scenario be evaluated and reported. The 70-year scenario assumes that a residential receptor is present at one location for 24 hours per day, 365 days per year, for 70 years. This scenario represents an upper-bound exposure to TAC emissions. In addition, the HARP model allows the calculation of a 30-year residential scenario, a 9-year adult residential scenario, a 9-year child residential scenario, and a worker exposure scenario. The 30-year residential scenario is the EPA's recommended upper-bound residential exposure. The 9-year adult residential scenario is the EPA's recommended average residence time for adult exposure. It is requested that for comparison purpose, the results for the 30-year and 9-year exposure scenario may also be presented in the report. This allows the public to put the 70-year exposure scenario into perspective.

Ocean Going Vessels (OGV)

General Comments

1. Please provide a table showing OGV emissions by port within California.

2. Please provide a table of growth factors applied by the ARB staff by year by port, and the raw data on ship size and number used to estimate growth.

3. In most cases, baseline emissions from the San Pedro Bay Ports were scaled based on total tonnage throughput for each port to obtain emissions for other ports in California. Port staff request an explanation of adjustments, if any, used to reflect different activity due to different types of cargo handled at these other ports compared to the Port of Los Angeles (container versus tankers) and nonVSR speeds while approaching various ports in California.

[1] "Area sources" here mean a collection of similar sources in a given geographic area, not one of the source types used in dispersion modeling.
[2] Rocke, D.M. and D.P.Y Chang. 1998. *Temporal, Spatial and Ambient Temperature Effects in the Sacramento Modeling Region.* Prepared by University of California, Davis, for the California Air Resources Board, Contract A4-333.

Commercial Harbor Craft (HC)

General Comments

1. Please provide a table showing HC emissions by ports within California.

Heavy-Duty Trucks

General Comments

1. Emissions are categorized into several classes in the draft ARB report, including: ocean-going ships, commercial harbor craft, cargo handling equipment, heavy-duty truck, and locomotives. Emissions are estimated based on many assumptions, especially for heavy-duty trucks utilized in goods movement. Does the ARB have an estimate for the level of uncertainties in the calculated emissions in the HRA using these calculated emissions? What are the margins of error on the calculated emissions and health risks?

2. Diesel particulate matter (DPM) emissions from trucks occur over land and near receptors; and thus their impact on health risk is large. No sufficient details are provided in the draft ARB report to show how DPM emissions were computed. Table II-3 shows the data for average trips, vehicle miles driven and average trip length. Are the data broken down further into types of vehicles (heavy-duty, light-duty, etc)? Was the EMFAC 2002 program was run to find the appropriate emission factors for the associated types of trucks?

Comment #	Page #	Paragraph	Detailed Comments
			Chapter 1: Public Health Impacts
1.	I-2	Table I-1	**Table I-1** **Annual 2005 Statewide PM and Ozone Health Effects Associated with Ports and International Goods Movement**[1]

Health Outcome	Cases per Year	Uncertainty Range[2]	Valuation (in millions)	Uncertainty Range[3]
Premature Death	750	260 to 1,300	$6,200	$2,100 to 12,000
Hospital Admissions (Respiratory Causes)	290	170 to 410	$10	$6 to 14
Asthma Attacks	15,000	3,600 to 26,000	$1	$0 to 2
Work Loss Days	130,000	110,000 to 150,000	$23	$19 to 26
Minor Restricted Activity Days	880,000	630,000 to 1,100,000	$53	$25 to 110
School Absence Days	330,000	85,000 to 610,000	$28	$7 to 53
TOTAL VALUATION	N/A	N/A	$6,300	$2,200 to 12,000

[1]Does not include the contributions from particle sulfate formed from SO_X emissions, which is being addressed with several ongoing emissions, measurement, and modeling studies.
[2]Range reflects uncertainty in concentration-response functions, but not in emissions or exposure estimates.
[3]Range reflects statistically combined uncertainty in concentration-response functions and economic values, but not in emissions or exposure estimates.

"Valuation" needs to be defined in a footnote to this table.

Comment #	Page #	Paragraph	Detailed Comments
2.	I-6		ARB's assessment of diesel PM health impacts for the Ports of Los Angeles and Long Beach characterized the increased risk of cancer and non-cancer health effects to nearby neighborhoods. The study quantified [**estimated]** these non-cancer health effects in the study area: 29 premature deaths, 750 asthma attacks, 6,600 days of work loss, and 35,000 restricted activity days. **[These estimates are based on a conservative dispersion model and are therefore probably over-stated.]** In the health assessment for this plan, ARB staff updated the analysis of the non-cancer health effects in three ways. First, the impact of the two ports was calculated for the entire air basin, not the smaller study area near the ports. Second, the updated methodology (Pope, et al 2002) for calculating premature death was used. Third, the emissions inventory was updated from 2002 to 2005. The results of the updated analysis are shown in Table I-4 below. Similar analyses can be done for other ports once additional port-specific emissions inventories are completed.
3.	I-7		The port assessment found that the areas with the greatest impact outside port boundaries have an estimated cancer risk of over 500 in a million. About 50,000 people live in these locations. The area where cancer risk is predicted to exceed 200 in a million is more widespread and includes over 400,000 people. Overall, the study found that the impact areas extend several miles from the ports. The predicted cancer risk at some locations at the edge of the study area was as high as 100 in a million, so not all impact areas were identified. **It should be mentioned that these risk values are based a conservative dispersion model, a conservative toxicity factor (is there a safety factor built in?), and conservative exposure assumptions. The compounding effect of these conservative assumptions results in a very conservative risk estimate.**

Comment #	Page #	Paragraph	Detailed Comments
4.	I-8	Table I-5	**Table I-5** **Values for Health Effectsper Case of Mortality, Hospital Admissions and Minor Illnesses** (in 2005 dollars)

Health Endpoint	Year			References
	2005	2010	2020	
Mortality				
Premature death[1] (in millions)	$8.2	$8.6	$9.3	U.S. EPA (2003), 9-27
Hospital Admissions				
Acute Respiratory	34,000	34,000	34,000	CARB (2003), 63
Minor Illnesses				
Minor restricted activity day (MRAD)	61	61	63	U.S. EPA (2004), 9-159
Work loss day	178	178	178	2002 California wage data, US Department of Labor
Asthma – acute (per symptom day)	50	51	52	U.S. EPA (2004), 9-158
School absence day	87	87	87	U.S. EPA (2004), 9-159

[1] The premature death values are adjusted by an income factor for the respective years.

The numbers in the above table are confusing because some are in millions and some are in single dollars. Also, it should be clarified that some of the values are based on willingness to pay to avoid the impact rather than actual economic impact.

Comment #	Page #	Paragraph	Detailed Comments
			Chapter 3: Emission Reduction Strategies
5.	III-5	Table III-3	Shows OGV emissions reduction by measure proposed by the ARB staff. Port's staff is interested in knowing what assumptions of fleet turn over, reduction in emissions due to low emitting engines or fuels were used to calculate emissions reductions? Is each measure's reduction for a given calendar year reported with respect to the baseline or is the reduction calculated in a stepwise manner? Our concern is that the total emissions reduction, which is a sum of the reductions from all measures in table III-3, will be over estimated if the emissions reductions are always calculated from the same baseline.
6.	III-21	Table III-5	Shows HC emission reductions by measure proposed by the ARB staff. Port's staff is interested in knowing what assumptions of fleet turn over, and reductions in emissions due to low emitting engines or fuels were used to calculate emissions reductions? Is each measure's reduction for a given calendar year is with respect to baseline or the reduction is calculated in a stepwise manner?
7.	III-35	2	• Retrofit 5,000 additional trucks with PM and NOx controls (by 2015). The portion of the MY 2003-2006 fleet expected to serve the ports can be expected to grow beyond 2010[3]. If the current port truck age distribution prevails in 2015, 8,640 of the nearly 29,000 trucks serving the ports would be 9-12 years old. These trucks should be retrofitted with diesel particulate filters and – if verified technologies are available – catalysts or other devices to reduce NOx. The cost of retrofitting the 5,000 or so additional trucks that were not previously retrofitted, with devices that reduce both PM and NOx, would be about $100 million. [3] The replacement of pre-2003 trucks can be expected to affect the age distribution of trucks not replaced. Though the replacement program may slow turnover to 2007 and later model year trucks, 2003-2006 trucks will already have been purchased at the time the replacement program begins. Still, the impact of the replacement program on the use of later model trucks for port service cannot be precisely predicted. **Has the ARB determined the cost effectiveness of these three measures to see whether the emissions and/or health benefits per unit cost are comparable to other measures? This should be done in the context that truck emissions are geographically spread out (and therefore produce no severe risk hot spots) and their emissions will steadily decline over time anyway.**
8.	III-48		Section III.G of the report ("Operational Efficiencies") is very interesting and thought-provoking. In some cases, efficiency improvements can provide environmental and economic benefits simultaneously. Perhaps the impediments to implementing traditional "command and control" solutions can be sidestepped entirely. Even if total emissions are not significantly reduced, their health impacts can be if they do not continue to be concentrated in the ports. This is an area where the ARB can, by conducting research, be a resource to local air pollution control districts and to port operators.

Comment #	Page #	Paragraph	Detailed Comments
			Chapter 4: Benefits and Costs
9.	IV-2	1	As discussed in Appendix A, the location (within a specific air basin, at a port or at sea), and emission conditions (such as exhaust temperature and stack height) have significant impact on population exposure. Ships and harbor craft release much of their emissions at sea. In addition, ships have high stacks that disperse emissions. Some of these emissions do not reach land; all of the emissions are significantly diluted by the time they do. Similarly, sources confined to the port (like ships at berth or cargo handling equipment) have a smaller impact than the sources that move into and through the community (like trucks and trains). As a result, the community exposure per ton of diesel PM emissions released at sea or on port property is lower than the exposure from a ton of diesel PM released on land within the community. Trucks and locomotives operating in the community have the highest ratio of exposure per ton of diesel PM emitted. Because of this variation in exposure impact and different relative degrees of control by source sector, the diesel PM risk reduction will be greater than the emission reduction indicated in Table IV-2. **The argument used in this paragraph may be true; however, when looked at from a magnitude-of-exposure perspective, wouldn't the sources concentrated at the ports be more important because of their relatively high risk impacts at nearby receptors?**

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<tr><th>Comment #</th><th>Page #</th><th>Paragraph</th><th>Detailed Comments</th></tr>
<tr><td>10.</td><td>IV-3</td><td>Table IV-3</td><td>
Table IV-3
Exposure Adjustment Factors for Diesel PM Emissions
from Ports and International Goods Movement
<table>
<tr><th></th><th>Exposure Adjustment Factor</th></tr>
<tr><td>Ships-Underway</td><td>0.92</td></tr>
<tr><td>Ships-Hotelling</td><td>0.65</td></tr>
<tr><td>Harbor Craft</td><td>0.76</td></tr>
<tr><td>Cargo Handling Equipment</td><td>0.57</td></tr>
<tr><td>Trucks-On Port</td><td>0.49</td></tr>
<tr><td>Trucks-Off Port</td><td>None</td></tr>
<tr><td>Locomotives-On Port</td><td>0.50</td></tr>
<tr><td>Locomotives-Off Port</td><td>None</td></tr>
</table>
These exposure adjustment factors appear backwards. Should these factors actually be subtracted from 1.0? For example, the “ships underway” factor should be 1.0-0.92=0.08. The “trucks off port” factor should be 1.0. etc.

Please provide more details on how the risk adjustment factors as presented in Table IV - 3 were developed. Discussions on other factors, such as DPM emission adjustments, are too brief and need further details to be fully evaluated. Without further details, many factors used seem to be arbitrary.
</td></tr>
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<tr><th>Comment #</th><th>Page #</th><th>Paragraph</th><th>Detailed Comments</th></tr>
<tr><td>11.</td><td>IV-6</td><td>Table IV-8</td><td>
Table IV-8
Economic Benefits of Plan Strategies in Year 2020
(in 2005 dollars)
<table>
<tr><th>Impact</th><th>Value in 2020
(in millions)</th><th>Range
(in millions)</th></tr>
<tr><td>Premature Deaths</td><td>$1,700 to $3,000</td><td>($600-$5,800)</td></tr>
<tr><td>Hospital Admissions
(for Respiratory Causes)</td><td>$2 to $4</td><td>($1-$5)</td></tr>
<tr><td>Asthma Attacks</td><td>$0.2 to $0.3</td><td>($0.04-$1.0)</td></tr>
<tr><td>Work Lost Days</td><td>$6 to $10</td><td>($5-$11)</td></tr>
<tr><td>Minor Restricted Activity Days</td><td>$13 to $22</td><td>($6-$50)</td></tr>
<tr><td>School Absence Days</td><td>$6 to $10</td><td>($2-$19)</td></tr>
<tr><td>Total</td><td>$1,700 to $3,000</td><td>($600-$5,800)</td></tr>
</table>
Same comment as earlier in the document about defining “value”. Does it mean actual benefit to the economy, or is it related to the population’s willingness to pay for the elimination of adverse health impacts?
</td></tr>
<tr><td colspan="4"><u>Appendix A</u></td></tr>
<tr><td>12.</td><td></td><td></td><td>In the health and economic impacts section (Appendix A), it is not clear whether the ARB based its analysis of cancer risk upon 70-year average emissions that are calculated by taking into account emission reductions in future years. (This is the approach to be followed per the POLA’ health risk assessment protocol.)</td></tr>
</table>

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<tr><th>Comment #</th><th>Page #</th><th>Paragraph</th><th>Detailed Comments</th></tr>
<tr><td>13.</td><td>App. A-11</td><td>Table A-2</td><td>
Table A-2 2001 Statewide Pollutant Emissions by Goods Movement Source Type[1] (Tons per Day)
<table>
<tr><th>Pollutant</th><th>Ships</th><th>Harbor Craft</th><th>Cargo Handling Equipment</th><th>Trains</th><th>Trucks and TRU</th><th>Total</th></tr>
<tr><td>ROG</td><td>3</td><td>9</td><td>3</td><td>5</td><td>14</td><td>34</td></tr>
<tr><td>Diesel PM</td><td>8</td><td>4</td><td>1</td><td>2</td><td>3</td><td>18</td></tr>
<tr><td>SO_X</td><td>59</td><td>1</td><td><1</td><td>3</td><td>2</td><td>65</td></tr>
<tr><td>NO_X</td><td>94</td><td>86</td><td>21</td><td>77</td><td>129</td><td>407</td></tr>
</table>
[1]Transportation Refrigeration Units (TRUs) were not considered in the health impacts assessment because staff determined the fraction of TRU emissions related to goods movement could not be accurately evaluated in time for release of this report, and will be addressed in future assessments.

What regulations have and have not been accounted for in the future emission projections? For example, has the forthcoming ARB rule on harborcraft and cargo handling equipment been incorporated into the calculations? How about the railroad MOUs, etc.?
</td></tr>
<tr><td>14.</td><td>App. A-12</td><td>Table A-3</td><td>
Table A-3 2001 Ports and International Goods Movement Related Emissions Released Over Land by Corridor Region (tons/day)
<table>
<tr><th>Region</th><th>ROG</th><th>Diesel particulate</th><th>NO_X</th><th>SO_X</th></tr>
<tr><td>South Coast</td><td>13</td><td>4</td><td>130</td><td>8</td></tr>
<tr><td>San Francisco</td><td>4</td><td>2</td><td>50</td><td>3</td></tr>
<tr><td>Central Valley</td><td>4</td><td>2</td><td>60</td><td>1</td></tr>
<tr><td>San Diego / Imperial</td><td>2</td><td>1</td><td>20</td><td>1</td></tr>
</table>
[The emissions in Tables A-2 and A-3 do not seem to reconcile with each other.]
</td></tr>
<tr><td>15.</td><td>App. A-13</td><td>2</td><td>Based on the draft modeling analysis for the communities surrounding the ports in the SoCAB, potential cancer risk associated with on-port and vessel emissions was estimated to exceed 500 in a million [at maximum impacted locations]. A 50 per million cancer risk still existed more than 15 miles from the ports [in certain directions].</td></tr>
</table>

Comment #	Page #	Paragraph	Detailed Comments
16.	App. A-13	End	The cancer risk numbers mentioned in this section are mostly derived from dispersion models which can be quite conservative. Have there been attempts to compare the DPM concentrations predicted by these dispersion models to actual ambient monitoring results to gauge whether the models are reasonable or grossly over-predictive? For example, the Port of Los Angeles is conducting a local ambient air monitoring program. Do the preliminary monitoring results from this program tend to validate the modeling results in the October 2005 ARB study? Or are they showing something different?
17.	App. A-14		This section presents a large amount of information on prior studies that link the pollutants of concern to various health effects. It would be very helpful to provide a table that shows the ranges of health effects values identified in the various studies, and the values selected for use in this study. That way, the reader can see whether this study uses health effects values that are on the high side, low side, or somewhere near the middle of the range of values from the prior studies.
18.	App. A-20	Subheading	Acute and Chronic [**Noncancer]** Effects
19.	App. A-25		Thus, this assessment employs exposure and health risk methodology for diesel PM and particle nitrates (Lloyd and Cackette, 2001), modified to a region-by-region approach, with the addition of similar methodologies for particle sulfates which did not succeed and ozone. **[What does "particle sulfates which did not succeed" mean? This does not make sense.]** Health endpoints used in the PM (CARB and OEHHA 2002) and ozone (CARB and OEHHA 2005) standard reports will be included, and annual impacts for 2005, 20010, 2015 and 2020 were calculated. An economic valuation of the health impacts was performed using the same methods employed for airborne toxic control measures (ATCMs) by CARB. **[need a reference]** To correct for potential inconsistencies between exposure and emissions where emissions are not distributed uniformly in urban areas, adjustment factors for [**were applied to**] diesel PM emissions sources located in the outer continental shelf.

Comment #	Page #	Paragraph	Detailed Comments
20.	App. A-45	3	To estimate the non-cancer health effects in areas outside the modeling domain, we interpolated [**extrapolated**] the diesel PM concentrations from the modeling domain (20 mi x 20 mi) into an area of 40 mi x 30 mi in the north direction and another area of 20 mi x 20 mi in the east direction of the modeling domain. Concentrations into the south and west directions of the modeling domain were not interpolated because these areas are located over the ocean. The expanded model receptor domain covers an area of 40 mi (east-west) and 50 mi (north-south) and includes a population of about 10 million people. The non-cancer health effects presented in this report are derived from the expanded modeling domain, i.e., 40 mi x 50 mi. **This section indicates that impacts from the San Pedro Bay Ports were evaluated using ISCST3 dispersion modeling. But Section C.1 above indicates that all other ports were evaluated using receptor modeling. Is this correct? If correct, please discuss which method is more conservative and therefore which ports may have their impacts over-stated relative to the other ports.**
21.	App. A-50	Table A-11	Please clarify which, if any, of the numbers in Table A-11 are predicted by a dispersion model instead of receptor modeling. Any numbers predicted by a dispersion model could be over-stated relative to other numbers.
22.	App. A-50	1	The next series of tables present the results of our health impacts assessment. Tables A-12 through A-15 present [**statewide**] results
23.	App. A-51	Table A-12	A typical reader may interpret the valuation figures to mean the economic impact to the region for these health effects. However, as described earlier in the report, these figures actually represent the amount the population would be willing to pay to avoid the impacts (or something close to that). A footnote clarifying the definition of valuation would be helpful here.
24.	App. A-54	1	This paragraph makes it seem like proximity to goods movement is the only way a person can get exposed to a risk greater than 10 in a million. It should be clarified that there are plenty of other diesel sources in the state unrelated to goods movement as defined in this report. Also, there are existing industrial facilities that have plant-wide risks much greater than 10 in a million. And, of course, there are many other causes for cancer besides inhalation exposure to diesel exhaust.
25.	App. A-54	2	Based on CARB's preliminary work, cargo-handling equipment and ship hotelling activities are anticipated to be the largest contributors of toxic pollutants to neighboring communities **[from port operations.]**
26.	App. A-54	Table A-16	As mentioned in an earlier comment, the numbers in Table A-16 are derived from dispersion modeling and therefore are probably more conservative than the numbers for the rest of the state.

Comment #	Page #	Paragraph	Detailed Comments
27.	App. A-56	2	We estimate that 750 premature deaths (260-1,300, 95% confidence interval (95%CI)) can be associated with goods movement emissions, annually on a statewide basis. To put these mortality numbers into perspective, attaining the California PM and ozone standards statewide would annually prevent about 9,000 premature deaths (3,100 – 15,000), or 4% of all deaths**.** **Please put this into further perspective: how many total premature deaths are there each year in California? What is the definition of a premature death?**
28.	App. A-27		Mentions "CARB staff recently developed an improved emissions inventory for the harbor craft category." As stated earlier, Port's staff is in the process of updating their 2001 HC emissions inventory; it would be helpful if ARB staff could provide more detail on the input factors, such as emissions factors, load factors and activity, used by the ARB to estimate HC emissions.
29.	App. A-32	Table A-6	The emissions percentage from heavy-heavy duty trucks for 2001 for San Francisco and San Diego appears to be low. Even though the emissions contribution from these two areas is approximately one third compared to other regions in the state, growth assumption to 2025 are the same as for South Coast and Sacramento Valley. Is this a logical assumption? Did ARB staff make adjustments for truck traffic from Mexico to South Coast Air Basin, and other parts of the country?
30.	App. A-48	Table A-10	Shows statewide dispersion adjusted emissions. Port staff would like to obtain the methodology, with example calculations, sufficient to understand how the dispersion adjustment factors were determined. In addition, Port staff wishes to confirm that these dispersion adjustment factors were applied to the emissions inventories used during the latest health risk assessment study performed for the Ports of Los Angeles and Long Beach published in report entitled "California Air Resources Board Diesel Particulate Matter Exposure Assessment for the Ports of Los Angeles and Long Beach," dated October 2005.