

July, 2001

Response to Comments from the Natural Resources Defense Council (Diane A. Bailey, M.S., Staff Scientist; Gina Solomon, M.D., M.P.H., Senior Scientist).

Comment 1: We strongly support the listing of Diesel Exhaust Particulate and PAHs as Tier 1 TACs.

We applaud OEHHA for listing Diesel Exhaust Particulates (DEP) as a Tier I TAC. Given findings of high cancer risks, childhood asthma and a multitude of other health problems associated with DEP, we believe this pollutant should be of the utmost priority for consideration of new standards to protect children's health. The relatively new data linking diesel exhaust particulate to immunological changes in the airways that create the inflammatory effects seen in asthma are particularly important in the context of risks to children. Several epidemiologic studies of children living along major trucking routes have also shown decreased lung function or asthmatic reactions. These data indicate that children may be at particular risk from diesel exhaust particulate.

We also recognize that while PAHs are a component of DEP, they are emitted from other sources as well. It remains somewhat unclear to us why DEP and PAHs cannot be combined, because the toxicity and sources are highly overlapping. However, we do agree that the literature on PAHs does indicate a significant risk to children and we believe that PAHs must be reassessed and better controlled to protect children.

Response 1: OEHHA thanks the NRDC for their supportive comments in relation to the listing of DEP as one of the five initial TACs to be considered under the Children's Environmental Health Protection Act (SB25).

OEHHA also notes the commenters' agreement that PAHs present a significant risk to children. However, OEHHA considers it would be inappropriate to combine the listing of PAHs and DEP under SB25, for three primary reasons:

1. Although many of the health effects of DEP are similar to those of PAHs, there may be some different effects, resulting from other components of DEP, or from the interaction of multiple components.
2. DEP is an important source of environmental exposure to PAHs. However, as documented in the summary, there are a number of other such sources, including industrial emissions, environmental tobacco smoke and some methods of domestic heating or cooking.
3. In the interests of clarity, and compliance with the mandate, OEHHA has generally attempted to maintain correspondence between the categories used in the TAC listing process and those used for the SB25 prioritization. DEP is identified as a TAC separately from the listing of Polycyclic Organic Matter (the inclusive category of which PAHs

July, 2001

form an important and more clearly characterized subset).

Comment 2. Benzene Should Remain a Tier 1 TAC.

NRDC is disappointed that industry comments led to the removal of benzene from Tier 1. We reiterate that the science supporting high exposures and health risks to children is strong. At the June 15th Air Resources Board Scientific Review Panel meeting, OEHHA conceded that they agree with many of the comments that the epidemiological evidence is weak for elevated incidences of childhood leukemia associated with parental exposure to benzene. However, Table 4 of the *Prioritization of Toxic Air Contaminants Under the Children's Environmental Health Protection Act*, prepared by OEHHA, lists "... studies indicating increased risk of childhood leukemia in children of benzene-exposed workers." as a major reason why benzene was chosen as a Tier 2 TAC. NRDC agrees with the original OEHHA assessment that benzene is associated with leukemia in the children of exposed parents. Because this finding is true for fathers as well as mothers, it's not clear whether the risk is prenatal or is postnatal due to vapors carried home on the father's breath or clothing. The evidence is sufficient to indicate a likely risk to children. Given the fact that benzene is a high volume chemical with toxic hotspots in California, we believe benzene should be moved back into Tier 1.

Response 2: OEHHA assures the commenters that, while due notice was taken of all public comments received, the primary stimulus to the removal of benzene from Tier 1 was that the evidence available for differential impacts of benzene on infants and children is less convincing than that presented for several other agents. Since the statute allows a maximum of five TACs in the initial listing, we were constrained from listing more than five, and chose to defer benzene for the moment due to the relatively weak and largely indirect evidence for differential impacts. In spite of this change in the overall prioritization, OEHHA continues to be concerned about benzene. There are substantial hotspot releases of benzene as well as a relatively high ambient air level. We will continue to monitor the literature for papers that will help define the issue of differential susceptibility to benzene.

Comment 3. Include 1,3-butadiene in the Next Evaluation.

NRDC urges OEHHA to re-evaluate 1,3-butadiene during the next listing process. Based on the relatively high exposures and risks discussed in our earlier comments, 1,3-butadiene should be placed in the Tier 2 group at least. Although the evidence of infant and child toxicity may be somewhat limited, it is nonetheless important, especially given the highly ubiquitous nature of this compound.

Response 3: Although the procedures for any subsequent prioritization under SB25 have yet to be determined, OEHHA shares the commenters' concerns about 1,3-butadiene, and will take these considerations into account at the appropriate time.