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Catherine H. Reheis-Boyd
President

February 1, 2013

Via email: CalEnviroScreen@oehha.ca.gov

Dr. John Faust (john.faust@oehha.ca.gov)
Chief, Community Assessment and Research Section
Office of Environmental Health Hazard Assessment
1515 Clay Street, Suite 1600
Oakland, CA 94612

**Re: Comments on California Communities Environmental Health Screening Tool
(CalEnviroScreen)**

Dear Dr. Faust:

The Western States Petroleum Association (WSPA) is a trade association representing twenty seven companies that explore for, develop, refine, market and transport petroleum and petroleum products in the Western United States. Many of our members have extensive operations in California and are vitally interested in programs, policies and models that are being evaluated by your agency for potential use throughout the State.

As you may recall, WSPA has been an active participant in Environmental Justice issues when this issue became recognized regionally and throughout the nation. For example, as noted in the meeting, WSPA was one of many organizations working with the South Coast Air Quality Management District (SCAQMD) when it began to explore this issue in 1994 and we have been a participant in the Cumulative Impacts and Precautionary Approaches Work Group (CIPAWG) since its inception.

We appreciate the difficulty in developing a tool (e.g., CalEnviroScreen) that “uses existing environmental, health, and socioeconomic data to consider the effect to which communities across the state are burdened by and vulnerable to pollution”.¹ We also appreciate the manner in which your agency consulted with academic groups and the CIPAWG as the process unfolded. We recognize, as

¹ Letter from Assistant Secretary Mataka and Dr. Alexeeff to Cumulative Impact and Precautionary Principles (CIPA) Work Group, January 3, 2013

you do that the Tool is only the first step (“ver 1.0”) of an ongoing process – and that improvements will be made in the future.

In an effort to provide input to the process, and to assist you in providing guidance toward the use of the screening tool, we have prepared comments on a number of issues that were discussed at the January 11, 2013 meeting of the CIPAWG. We hope the following comments prove beneficial to Office of Environmental Health Hazard Assessment (OEHHA) and California Environmental Protection Agency (CalEPA) because they are critically important to ensuring that the screening tool is based on technically correct and defensible information and more importantly recognize the limitations and appropriate uses of the tool.

Emphasize the Limits of the CalEnviroScreen - Acknowledge What the Screening Tool can not do

CalEPA and OEHHA correctly emphasized, in the letter to the CIPA (referenced earlier), that the CalEnviroScreen “cannot be used as a substitute for an analysis of the cumulative impact of any specific project for which an environmental review is required by CEQA. Moreover, CalEnviroScreen assesses environmental factors and effects on a regional or community-wide basis and should not be used in lieu of performing an analysis of the potentially significant impacts of any specific project.”² It was also noted that the Screening Tool “does not propose any new programs or regulatory requirements.”³

WSPA supports those statements of intent and together with multiple other stakeholders, is very concerned that ambiguity regarding the limitations of use of the tool still remains. WSPA strongly believes that CalEPA and OEHHA must specifically delineate the circumstances for which the Screening Tool should not be used (in both the guidance memo and the tool itself). Additionally, CalEPA will need to maintain vigilance to ensure that use of the Tool is not expanded beyond the specified scope.

Moreover, we, as well as other stakeholders, remain concerned that the screening tool would erroneously “redline areas by defining additional permitting or regulatory hurdles that would penalize existing and/or new businesses. This approach would severely inhibit, if not prohibit, economic growth or expansion. Even more harmful, placing additional regulatory or permitting hurdles would inhibit new businesses from entering the region – an outcome that is absolutely inconsistent with the needs of local community to improve socioeconomic standing and reduce levels of poverty.

Recommendation: CalEPA and OEHHA should remove any ambiguity by specifying that the Screening Tool cannot be used for CEQA or any regulatory permitting requirements including any land use decision making purposes.

² Page 3 of Mataka and Alexeeff letter, January 3, 2013

³ Op. cit

Emphasize What the Screening Tool Can Do

You may recall that during the January 11 CIPA Work Group meeting, WSPA noted that it would be beneficial to clearly emphasize what the results of the Screening Tool can do. As members of the CIPAWG noted, and indeed as OEHHA and CalEPA indicated, the Screening Tool was intended to help identify communities that are “burdened by and vulnerable to pollution.” This is a difficult task because there are no quantitative methods to accomplish this objective. In fact, the Tool recognizes this fact by taking a qualitative look at the State by evaluating zip codes on a relative (as opposed to absolute) scale based on percentile scores. Percentile scores can be misleading (especially where the scale can be very large). Hence, it seems the only purpose of the screening tool would be to use it on a qualitative basis

Recommendation: CalEPA and OEHHA should more clearly define where use of the Screening Tool is appropriate. In particular, after suggested modifications to the screening tool are made, it might be useful for identifying communities for the purpose of allocating grants, subsidies and other incentives to improve the social or economic impacts in that region. This approach would recognize that results generated by the Screening Tool would help “incentivize” areas that need assistance and where opportunities for enhanced economic investment exist; but again, should not be used for CEQA, regulatory permitting or land use decision making purposes.

The CalEnviroScreen Tool Must be Improved

The current version must be improved before it is adopted. Even at this stage, both academic reviewers and CIPA members highlighted several areas for concern. We provide our comments on three issues: inappropriate quantitative approach for a qualitative analysis, inappropriate multiplication of percentiles used in ranking, and overweighting of factors.

Inappropriate use of quantitative approach for a qualitative analysis

The Screening Tool has been described as a qualitative “model.” However, despite this consistent characterization by OEHHA and CalEPA, the agencies continue to use a quantitative approach – multiplying pollution burden by population characteristic. This glaring inconsistency must be addressed before the current Tool is used for any purpose.

The problem with this approach is highlighted by what we believe was consensus in comments by the Academic Panel. Notwithstanding OEHHA’s assertion that no consensus was reached, it seemed clear that the Academic Panel noted that the quantitative multiplication approach was an issue that needed to be addressed because of what is implied, and indeed, what is expressed.

Even more disturbing is that the Agencies have asserted that the scales were multiplied because the intent was to enlarge the scale and reduce the number of ties (among cities). This is totally without merit because the action purports to add “information and accuracy” when in fact, it does the opposite. Does OEHHA or CalEPA really think that a percentile rank of 98 is qualitatively or quantitatively

different than a rank of 92? Can the agency realistically state that a percentile score of 98.5 is actually different than a score of 98.3? To what would the agencies attribute the differences? Percentiles have a meaning only relative to rank – one cannot determine how much a difference exists or whether the differences that do exist are consistent across the range of variables.

Add to the previous concerns the fact that the Agencies use a mathematical expression $A \times B = C$. Explicit is the statement that when variables A and B change, those changes directly affect C. Now, consider the CalEnviroScreen Tool. WSPA questions whether CalEPA's assertion that both pollution burden (A) and population characteristic (B) are equal in influence and directly related to the total reflected in (C)? Is there any empirical data that suggests that the "answer" actually relates to some index of Environmental Justice?

This error is further compounded by the problems inherent in the power of a mathematical formula or expression - because use of an equation explicitly purports that a quantitative relationship exists. In the case with the CalEnviroScreen Tool, no such quantitative expression has been scientifically documented (nor even implied).

Recommendation: It is technically and scientifically inappropriate for CalEPA to neither adopt a quantitative process nor use any quantitative methods in what is at best a flawed qualitative analysis. No quantitative approach can be taken because no direct relationship has been defined. Multiplication implies a level of confidence that in fact does not exist and cannot exist given the current understanding of health and health effects.

Instead, CalEnviroScreen should adopt a qualitative or categorical approach to the analysis. During the Academic Panel meeting held on September 7, 2012, some members pointed out the concepts of "data binning, use of a matrix analysis or ranking" would be more appropriate given that the variables are not independent or continuous. It is important to note that a qualitative approach is appropriate given that OEHHA and CalEPA are looking for a qualitative answer. Conversely, a quantitative analysis (using for example a mathematical formula) is exactly the wrong method to use given the variables in the analysis.

Inappropriate use of percentiles within multiplicative analysis

The Screening Tool is poorly structured as it abuses the concept of percentiles in a manner that totally distorts reasonable analysis. Percentiles are rankings of an event or an entity within a range of entities. In other words, a percentile shows one's position relative to another.⁴ Percentiles (or rankings) cannot, for many reasons, be multiplied. One can, however, look at percentiles as relative rankings.

In the case with the CalEnviroScreen Tool, rankings would be much better to use because: 1) the criteria and assumptions used does not show how the percentiles actually relate to environmental, health, or socioeconomic impact, 2) in instances where such uncertainty exists, percentiles can be expressed as ranges (i.e., all scores between 70 and 75 could be scored as a tie); and 3) this ranking

⁴Percentiles are not equal units of measurement. For instance, a difference of 5 percentile points between two individual's scores will have a different meaning depending on its position on the percentile scale, as the scale tends to exaggerate differences near the mean and collapse differences at the extremes. Percentiles cannot be averaged nor treated in any other way mathematically.

analysis process will preserve relative position without giving the artificial impression of accuracy (as shown by digits beyond the decimal).

Recommendation: WSPA strongly recommends a “binning, matrix analysis, or ranking approach” as was recommended by several members at the Academic panel meeting and that no percentiles be multiplied or combined in any manner. This ranking process preserves the intent of the Agencies and the stakeholders and is an advantage over what is proposed because it is entirely consistent with the objectives of the study. Any mathematical manipulation of rankings or percentiles exposes the analysis to legitimate and severe critique.

Confounding Variables and the Overweighting of factors

As is well established by scientific and technical convention, an essential assumption of scientific analyses is that, unless clearly specified in advance, variables used in the analysis are mutually independent. The CalEnviroScreen Tool suffers from up to triple counting (“over weighting”) of mobile source emissions – and particularly heavy duty vehicle emissions – through inclusion of variables of PM_{2.5} exposure, exposure to diesel PM, and traffic density. We note that OEHHA agreed that there was “overlap” in the impact of the factors chosen in the Screening Tool.

WSPA and others characterized this effort at the CIPA meeting as “overweighting” because any well-founded investigation of current environmental data would clearly show that these factors are confounded and co-dependent and therefore not suitable for use within the same analysis. Even more telling, the diesel PM exposure analysis is already hugely conservative because it is based on unit factors developed using 1950 railroad engines and rail-road diesel of a quality and emission level that is not even sold in the U.S. or California since the 1990’s.

Evidence that the Screening Tool over-emphasized mobile source emissions is clear when one studies the example maps of impacts. For example, the report reveals that most of the highly impacted cities (i.e., the highest 10th percentile) lie near or adjacent to major freeways and interstate highways. If, as stated by OEHHA and CalEPA, the intent of the CalEnviroScreen is to identify cities and municipalities for further study or action, then prejudicing the Tool by putting too much emphasis on mobile sources will do nothing to identify truly disadvantaged communities nor will it provide any insight into areas where mitigation could occur. In fact, the Tool’s results could actually inhibit the ability for policy-makers to focus action on key areas because any actions that could be taken to improve the socioeconomic or environmental conditions appear to be swamped (i.e., rendered meaningless) by the weight placed on mobile sources.

Recommendation: WSPA recommends that the listed criteria and calculation of mobile source emissions in the Tool be addressed, to ensure that CalEPA is not over-weighting emissions through triple counting, which could result in wrong scores based on emission data that do not exist. At the outset and until a realistic factor analysis is completed, WSPA recommends that the Tool include exposure to PM 2.5 concentrations above the federal standard but delete factors for traffic density and Diesel PM emissions.

Due to the significant changes that WSPA and others recommend, we urge CalEPA to revise the CalEnviroScreen Tool, and re-issue a revised version for CIPAWG members to review and comment.

Such a process will contribute significantly to improving the data quality that currently exists and improve the overall focus of the OEHHA and CalEPA effort.

Thank you for giving WSPA the opportunity to participate as a member of the CIPA WG. Should you have any questions, feel free to contact me or Mike Wang of my staff (cell; 626-590-4905: Email: mike@wspa.org).

Sincerely,

A handwritten signature in blue ink that reads "Catherine A. Boyd". The signature is fluid and cursive, with the first name "Catherine" and last name "Boyd" clearly legible.

Cc: George Alexeeff, Director (George.alexeeff@oehha.ca.gov)
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