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September 21, 2012

James Goldstene
Executive Officer
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Dr. Barry Wallerstein
Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Seyed Sadredin
Executive Officer
San Joaquin Valley Air Pollution Control District
1900 E. Gettysburg Avenue
Fresno, CA 93726

Posted on website http://www.arb.ca.gov/planning/vision/vision.htm

RE: 2012 Draft Vision for Clean Air Report

Dear Executive Directors:

Southern California Edison (SCE) appreciates the opportunity to comment on the Vision for Clean Air Report by the California Air Resource Board (CARB), the South Coast Air Quality Management District, and San Joaquin Valley Air Pollution Control District (collectively, the Districts). We appreciate the work over the last several months to solicit comments and improve the report. Our detailed comments, questions, and additional recommendations on the Vision for Clean Air report are included in Attachment A. SCE also notes that seven of the 10 Vision report recommendations were included in the draft 2012 Air Quality Management Plan for the South Coast AQMD and refer to our August 31 comments on that draft Plan. (See Attachment B.)

SCE recognizes the value of having a framework and dialogue such as the Vision for Clean Air process that is outside the challenging legal constraints of the State Implementation Plan (SIP) process (required in order to meet the National Ambient Air Quality Standards (NAAQS)). SCE also recognizes the value of establishing a framework and process to start to understand what is needed to meet not only the NAAQS but also the AB 32 greenhouse gas reduction requirements and state greenhouse gas reduction goals.[1] The draft Vision report shows that a daunting transformation in technology is necessary and that much more should be known before conclusions can be made regarding specific technologies. SCE believes that it is more efficient in the long run for all parties to consider both GHG and criteria air pollutant reductions from mobile sources, rather than the more traditional "siloed" approach of considering them

[1] Governor Brown's Executive Order in 2012 (B-16-2012) expressing a greenhouse gas reduction California target equaling 80% less greenhouse gases than 1990 levels by 2050.

separately. By considering both issues, as well as other environmental and energy impacts and benefits, a better suite of solutions will be found for society, the regulated community will understand what is needed,[2] and vehicle designers and engineers will have clearer technical goals. SCE does not believe that California must give up climate change solutions to obtain air quality, or vice versa.

SCE commends the draft Vision report for beginning to consider at a high level the inclusion of the energy needed to produce the various transportation fuels when analyzing the transportation system, as this is not often done. SCE recognizes and supports the value of having agencies such as CARB and the Districts, whose primary responsibility may not be in energy, work together to understand the impacts their policies may have on the operation and affordability of the electric energy supply system and to understand the important and positive role electricity can play in helping reach our clean air goals. While it is more difficult to look at complex issues holistically and with collaboration, we believe it results in a better outcome. The Vision for Clean Air process begins to lead the state in what we see is the correct direction. SCE supports this effort and urges it to continue as CARB and the Districts work with the stakeholder community on next steps, such as the update of the AB 32 scoping plan and Freight Transport plan, and the development of State Implementation Plans for the 2015 ozone NAAQS. SCE believes it is important to take the time to ensure an integrated approach, as this will lead to better outcomes.

The draft Vision report suggests one possible future where electricity can play a role in helping reduce emissions from the transportation sector. SCE is strongly committed to doing our part to support the deployment of plug-in electric vehicles and other types of electric transportation. We are committed to continue working with CARB and the Districts to expand transportation electrification across the regions. SCE also has a strong working partnership with the Port of Long Beach to install electric technologies when and where they make both economic and environmental sense.

Electricity use in transportation holds great promise for reducing criteria pollutants, air toxics, and greenhouse gas emissions. However, there are challenges to the generation, distribution and transmission systems that need to be better understood over the next few years. For example, on-peak electricity for transportation electrification will require new fossil-fired, dispatchable generation to provide for the increased load and to support the intermittent nature of renewable energy. Without sufficient emission reduction credits, constructing new generation will not be possible in the South Coast Air Basin. We urge CARB and the SCAQMD to begin now to develop a regulatory framework that provides for sufficient offsets that allow for the construction of new generation while protecting air quality in the basin, or to work toward a viable alternate policy. SCE remains open and eager to work with the agencies and other stakeholders to meet this critical policy challenge.

As the state's many environmental and energy goals and requirements get more stringent, it is important to consider upstream energy impacts, costs, and benefits. While the Vision report has some of these elements, we view it as more of a starting point than a complete analysis. We need to better understand how it compares with work by various parties, and understand the Vision model better. For example, it is not clear how the three upstream energy scenarios in the

[2] For example, there will be fewer stranded assets under a comprehensive approach compared to a narrow approach where performance standards frequently change to meet the various "siloed" standards.

Vision appendix on Scenario Assumptions and Results interact with the many downstream vehicle and equipment scenarios.

We recommend the inclusion of more fuel-specific scenarios in order to understand the issues and trade-offs between types of fuels, and between options within a fuel category. For example, isolating the trade-offs between 33% renewables and 65% renewables (Vision Scenaro 2)[3] or a PHEV-dominant versus BEV-dominant scenario should be known. Also, as CalETC suggests,[4] understanding a hydrogen fuel cell vehicle-dominant scenario versus an electrification scenario should be understood. The benefits, costs, and upstream energy impacts should be considered fully.

While some of this could be incorporated in the final Vision report (due October 2012), we also recommend a long-term, informal framework and dialogue. A meeting held 18 months ago between all of the key energy and environmental agencies[5] was an outstanding example of the value of sharing information and ideas in order to move forward toward a common goal. All of the participants agreed the exchange of information was very helpful, recognized the complex, interrelated nature of the issues, and expressed interest in more dialogue. CARB and the Districts have certainly demonstrated the value of collaboration, and we urge that the process be expanded to the other agencies as CARB and the Districts move forward in considering electrification and its upstream impacts.

Utilities also need a better understanding of electrification[6] for our own load-forecasting purposes and scenario planning. SCE and the agencies all need a better understanding of the existing inventories, load shapes, and the likely future penetrations and other characteristics of these technologies. SCE is interested in working together on these issues. We recommend the continuation of the dialogue separate from the transportation rulemakings and planning proceedings by CARB and the SIP planning process by the Districts.

SCE supports the objectives of the Vision process. We see the need for close cooperation between CARB, the Districts, and SCE to address next steps after the Vision report is finalized in order to ensure proper consideration is given to all possible changes which can affect the electricity system. We look forward to working with CARB and the Districts to provide appropriate technical support. Please see our additional questions and recommendations in the attachments.

Sincerely,

Tom Gross
Manager, Corporate Environmental Policy,
Southern California Edison

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[3] See August 20, 2012 Appendix on Scenario Assumptions and Results, page 71.
[4] See CalETC letter dated Sept 21, 2012.
[5] The public meeting on February 15, 2011 on the issues surrounding adding additional dispatchable thermal generation in Southern California included representatives from CARB, the South Coast AQMD, the California Energy Commission, the Public Utilities Commission, the California Independent System Operator, the State Water Quality Control Board, the U.S. Environmental Protection Agency, environmental advocates, and industry representatives. Electrification was one of many issues discussed.
[6] There are many categories and subcategories of existing electric mobile sources, from forklifts to lawn and garden equipment to alternative marine power.

Attachment A: Additional SCE Comments on the Vision for Clean Air

Questions

SCE is interested in the CARB and Districts' responses to the following questions:

1. Does the VISION model (as modified by staff for the draft Vision study) equal the GREET-CA model often used by CARB and the CEC?

2. Are there examples of other industries that have had market adoption curves as fast as the market adoption curves in the draft Vision study?

3. Staff mentioned that data needs impede understanding the sensitivities between the upstream and downstream emissions for GHGs and criteria air pollutants. What are the data needs?

4. Why is there so little difference in the amount of electricity (quadrillion BTUs) in the three scenarios for upstream energy impacts in Appendix on Scenario Assumptions and Results (see pages 71 to 74)?

Additional Recommendations

Ironically, reaching the current renewables goal will mean paying careful attention to planning for the amount and location of thermal electric generating plants. Such plants will be needed, not just to meet demand for electric power, but also to physically accommodate the integration of greater amounts of renewable power. SCE welcomes the agencies' participation in crafting the policies needed to provide for these critical electric infrastructure and energy needs. SCE is also very mindful that the costs of some of these technologies are very high and can have significant impacts on the cost of energy to our customers. We are working to assure that electricity remains affordable, and we welcome the assistance of CARB and the Districts.. We want people to use the product efficiently so that the most work and benefit is gained from each kilowatt hour consumed. SCE is currently analyzing the impacts to generation, transmission, and distribution needs triggered by a number of environmental and energy requirements, including state renewable policy and the phase-out of using ocean water for cooling coastal power plants, among others. We stand ready to assist CARB and the Districts' staff to understand how these needs intersect with air quality policy.

The figures and charts in the Scenario appendix on Scenario Assumptions and Results show the NOx reduction benefits for the Districts, but generally do not show GHG reductions. We recommend the final version show the GHG reductions as well.

Attachment B.

August 31, 2012

Dr. Barry Wallerstein
Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: 2012 Air Quality Management Plan

Dear Dr. Wallerstein:

Southern California Edison (SCE) appreciates the opportunity to comment on the South Coast Air Quality Management District's (District) proposed 2012 Air Quality Management Plan for $PM_{2.5}$ (Plan or AQMP) and additional early action measures for ozone (Early Action Measures). Moving the District's air basins into attainment is a step toward improved air quality and improved economic growth by increasing the ability of businesses to operate in this region. The District's proposed Plan is an effective set of control measures that if adopted into rules by the District and other agencies will lead the region toward attainment with the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ through cleaner transportation and stationary source technologies. SCE recognizes that adopting the control measures in the AQMP is the first step in the process through which the District, CARB and other agencies will develop the control measures into proposed rules, and that the rulemaking process is the point at which the detailed examination of issues such as cost-effectiveness, feasibility, total cost, environmental impacts and "upstream" energy sectors impacts will occur. SCE also recognizes that many control measures will not become rules but instead require the District and stakeholder community to secure additional funding sources to enable research, development and demonstrations as well as education programs and incentive based commercialization programs. SCE supports this overall direction and effort to bring the region into attainment with NAAQS.

Regarding the Early Action Measures, SCE shares the concerns expressed by CCEEB regarding the legally binding reductions associated with the measures (not with the concepts in the measures). CCEEB is suggesting an alternative approach in which, if these reductions were not met, other sources in the District would not be penalized. We believe this approach is worthy of exploration.

SCE also recognizes that, occasionally, past control measures have not been developed successfully into rules because of issues discovered in the rulemaking process, and that the result was that other rules on different source categories or new incentive programs were developed to replace the emission reductions from the original proposed measures. Given this challenging situation, SCE will continue to work with the District, community stakeholders, and other agencies to determine the most cost-effective, least impact rules resulting from the control measures in this AQMP and to secure funding for cost-effective pollution reductions from incentive programs.

Additionally, SCE stresses the need for reform of the New Source Review requirements. The current emission reduction credit (ERC) shortage has resulted in the lack of ability to site new needed natural gas fired electric generation, Unless this problem is resolved, the reliability of the region's electric supply system is at significant risk. Moreover, the District's vision of relying more on electricity to provide clean power for the transportation sector will be threatened. SCE is participating in the Regulatory Flexibility Group represented by Latham & Watkins to develop alternatives to the present NSR process to achieve the goals of the Clean Air Act. The District should look closely at these methods and integrate the ideas into the District's approach to make needed changes to the program.

SCE is working with the District to facilitate development of goods movement electrification and public awareness for plug-in electric vehicles. These two programs complement the direction taken in the AQMP for $PM_{2.5}$ reduction measures, and in the Early Action Measures for ozone reduction. We also are collaborating with the District and the Southern California Association of Governments (SCAG) to develop plans for new infrastructure for the next AQMP in 2015.

As SCE mentioned in our September 2011 letter on the District's draft Air Quality Related Energy Policy, we believe it is important for the District to work with other state agencies to ensure there is consistency in the state's energy and environmental policies. The District continues to demonstrate inter-agency collaboration in this AQMP and the related Vision for Clean Air process. SCE reiterates our interest working with the District and other agencies to examine complex issues holistically, especially in the rule development process in order to help understand both the positive role that electricity can play in helping meet NAAQS attainment and the impacts of proposed rules on the operation and affordability of the electric energy supply system.

We look forward to continued work with the District on this AQMP and Early Action Measures. Our comments on some specific parts of the Plan follow.

1. <u>Support for Further Controls on Emissions from Berthing of Ships and Port Drayage Trucks</u>

   SCE supports control measure ONRD-05, that calls for CARB to develop a new rule by 2015 to require port drayage trucks that service rail yards within five miles of the port to have zero-emission miles by 2020. We also note that four of the five suggested technologies will have significant impacts on the electricity grid, and recommend the examination of this and related "upstream" issues in the rule-development process.

   If the grid-connected approach is found to be the preferred approach in the rule development progress, then we note the need to also solve the shortage of ERCs which makes the siting of new generation (likely needed to support ONRD-05) very difficult in the South Coast Air Basin.

   SCE supports control measure OFFRD-05, that calls for CARB, SCAQMD, and the San Pedro Bay Ports to develop a rule which, through grid connection or alternative means, further reduces emissions from ocean-going marine vessels while at berth. As with ONRD-05, impacts on the grid and the requirements for adequate generation will need to

be examined in the rule development process. SCE also supports the proposed backstop rule for the ports (IND-01).

2. Support for Early Actions to Deploy Advanced Control Technologies

SCE supports the efforts to accelerate the commercialization of advanced control technologies, including the aforementioned electrification technologies in control measures ADV-01, ADV-02, ADV-03, ADV-04, and ADV-06. SCE can provide assistance, as appropriate, to the District regarding aspects of the draft early action control measures' proposed actions, including:

- Seeking of funding sources
- Evaluation of technology options and funding mechanisms
- Demonstrations
- Deployments and field evaluation / testing
- Working groups that will examine electrification among other alternatives, and
- Technology symposiums.

Commercializing new technologies is not easy. The normal process of research, development, prototypes, field testing/demonstrations, and large-scale deployment must be implemented. The AQMP has thoughtfully considered the complexity of the issues and processes and provided time for each stage.

3. Support for Continuation and Expansion of Incentive Funds

SCE supports control measures (ONRD-01 and ONRD-03) to extend or supplement the funding of two existing CARB rebate programs (HVIP and CVRP) in order to encourage the purchase of the cleanest on-road vehicles. These programs are important because they encourage the transition to near-zero and zero-emission vehicles.

SCE supports control measures (ONRD-02 and ONRD-03) to fund accelerated retirement of older light-, medium-, and heavy-duty vehicles with a focus on small fleets and/or vehicles that are high-emitting in between smog check tests. SCE similarly supports the similar control measures for off-road equipment (OFFRD-01 and MSC-04C). We further request the inclusion of a sliding-scale incentive in the final control measures, when outlining the design of the proposed voucher program for purchase of a replacement vehicle or equipment. The replacement voucher should provide a larger incentive for the purchase of near-zero and/or zero-emission vehicles/equipment and use a definition that considers multiple environmental issues.

4. Support for Continued Education and Outreach

SCE supports EDU-01, which will be used to educate the general public on the environmental benefits of energy-efficiency measures, and the environmental impacts of using high-VOC solvents and cleaners. The general public, in most cases, does not see the clear benefit to air quality that results from their own reduced energy use. We believe this education program will help the public understand this critical connection.
In many cases the general public is not aware of the effects caused by the use of certain cleaning products and coating materials. Education on the contribution of VOCs to

ozone creation would allow for well-informed consumers to understand the need for changes in cleaning solvents and coatings in order help reduce harmful air pollutants.

SCE also supports education outreach on the use of plug-in electric vehicles and battery electric vehicles as a means to reduce air pollution and move the South Coast Air Basin toward attainment with the NAAQS. Education and outreach in this area would be in agreement with the goals of the District's 2011 Air Quality Related Energy Policy.

5. SCAG Control Measures (Appendix IV-C)

With regard to Appendix IV-C, Regional Transportation Strategy and Transportation Control Measures (TCMs), many of the strategies and TCMs improve efficiency of the existing system and would have no impact on SCE operations. However, the measures in Appendix IV-C call for more than $150 billion in capital improvements (funded and unfunded) to the local transit, commuter, and high-speed rail and goods-movement systems (pages 7-8), many of which include a "zero or near-zero" emissions component. As noted above, this expansion of electric transportation would have an impact on the electric system and the need for new transmission, distribution and generation, and is yet another example of the need to address New Source Review reform. Another issue that is not clear from TCM Emissions Tables 1 & 2 is whether the District has accounted for emissions from the construction and operation of energy infrastructure to feed the increase in electric, natural gas, and other alternative fuels. While page 10 of the appendix recognizes the need for improved infrastructure planning and investment to support alternative-fueled vehicles, it does not discuss if any TCMs will be updated or amended to account for and support the development of the required infrastructure.

SCAG is a strategic partner in a regional effort to accelerate fleet conversion to near-zero and zero-emission transportation technologies. A significant expansion of alternative-fuel infrastructure is also needed throughout the region to accommodate the anticipated increase in alternative-fueled vehicles. SCE is working with SCAG and the District to develop a framework for the necessary infrastructure changes.

SCE encourages the District to support development of infrastructure for alternative-fueled vehicles as part of future TCMs in the 2015 AQMP. Example locations include destination locations or locations such as park-and-ride lots where vehicles park for long period. Future TCMs could also include monetary or non-monetary incentives to encourage infrastructure for zero and near-zero emission transportation. Similarly SCE urges consideration of publicly accessible car-share services to serve as a critical component to completing the "last mile" of trips taken by transit.

6. SCE Supports INC - 01

This proposal will incentivize conversion to near-zero and zero-emission technology for boilers, water heaters, and space heating. These technologies, if developed, could have a significant impact in reducing criteria pollutant emissions. SCE looks forward to the development of this control measure and the introduction of new technology in this area.

7. SCE Supports INC - 02

   The Southern California region is still suffering the effects from the economic downturn. This control measure would seek to address that by calling for incentives for companies to manufacture zero-and near-zero emission technologies locally. Specifically, the incentives are to include expedited air permits and facilitation of the applicable CEQA documents. The call for accelerated permitting for these new technology projects is an important element for success since there are substantial costs associated with delays during the permitting process.

8. Define the Term "zero emissions" Broadly to Include Other Environmental Considerations

   The AQMP appropriately recognizes the interrelatedness of air quality and air toxics issues with other environmental issues such as climate change and water quality. SCE recommends the AQMP continue to do this by defining the term "zero emissions" in a broad manner so as to include other environmental considerations. Similarly, the term "near-zero-emissions" should be defined in a broad manner, but keep the AQMP's flexibility to define "near-zero" differently for different control categories.[7]

Southern California Edison appreciates the work that has been put into the AQMP and we look forward to working closely with the District during the rulemaking process.

Sincerely,

Michael Hertel
Director
Corporate Environmental Policy
Southern California Edison

[7] Draft 2012 AQMP Appendix IV-B-5.