

Appendix G

Education and Public Outreach

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Appendix G: Public Education and Participation

The San Joaquin Valley Air Pollution Control District's (District) mission to protect public health by improving air quality in the San Joaquin Valley (Valley) relies on the public's awareness and understanding of the District's air-quality improvement programs. The Valley cannot meet these public health goals on the back of businesses alone. Valley businesses are subject to some of the most stringent air quality air quality regulations in the nation. As Valley businesses continue to be subject to additional rounds of prohibitory regulations, the role of the public becomes increasingly important in reaching federal standards.

Emissions from public behavior such as driving, residential wood burning and lawn-care maintenance continue to be a key factor in the Valley's emissions inventory. Consequently, public acceptance of concepts such as alternative commute options, as well as specific clean-air strategies, such as Check Before You Burn, the Air Alert program and Healthy Air Living (HAL), requires widespread lifestyle changes. To that end, the District Governing Board has placed a high priority on conducting an active and effective public education and outreach program.

The District's comprehensive public education and outreach program is composed of numerous elements that are designed to allow the District to leverage opportunities to advance the District's multiple strategic objectives, such as:

- Encourage and enlist the general public to do their part to reduce air pollution
- Empower and inform the public to protect themselves during episodes of poor air quality by providing them timely air quality information as well as scientific and comprehensible information on the health effects of air pollution
- Provide accurate and objective information about: Valley efforts to reduce air pollution; measurable results and achievements; and challenges that remain.

G.1 PUBLIC EDUCATION AND OUTREACH ACTIVITIES

Engaging the public in efforts to reduce emissions is a key element of the District's attainment strategy. Education increases public support for new and controversial regulations. The District's education and information program has expanded and evolved over the years. The following is a partial list of the District's Public Education and Outreach Activities:

- Executing successful outreach campaigns for District grant programs
 - Promoting and conducting eight years of Clean Green Yard Machines (CGYM) lawn mower-exchange programs
 - Promoting the Burn Cleaner Woodstove Change-out program
 - Developing and implementing the Tune In, Tune Up vehicle emissions check program

- Developing Proposition 1B “Calling All Truckers” radio, print and billboard campaign
 - Working with Operation Clean Air (OCA), Coalition for Clean Air, and members of the goods movement Industry
 - Supporting the Drive Clean! vehicle program
- Developing seasonal, strong “Make One Change” messages in four languages(English, Spanish, Hmong & Punjabi) across the three distinct media markets of the Valley (Sacramento, Fresno, Bakersfield)
- Launching the Air Alert program
- Developing strong media relationship with reporters throughout the Valley and conducting hundreds of English and Spanish media interviews annually
- Regular meetings with Valley newspaper editorial boards and placement of op-eds in local papers
- Launching the amended Check Before You Burn residential wood-burning curtailment program
- Coordinating targeted outreach to foothill and mountain communities to solicit their participation and understanding in reducing particulate matter
- Producing the District’s yearly “Annual Report to the Community”
- Developing the Real-time Air Advisory Network (RAAN) and the accompanying smart phone app
- Launching the Healthy Air Living Schools program, including developing branded program materials
 - Enrolling more than 1,000 schools in the program to follow RAAN
 - Engaging hundreds of Valley schools in the “Turn the Key Be Idle Free” no-idling campaign
 - Guiding schools to use the Real-Time Outdoor Activity Risk (ROAR) guidelines that provide health recommendations for outdoor exercise based on the duration of student’s exposure, the intensity of their exercise and the air quality conditions
- Developing the Web-based Archived Air Quality (WAAQ) system to give the public historical air quality information
- Revising the “Blue Sky, Brown Sky ... It’s Up to You!” curriculum for elementary school teachers and students
- Improving the District’s widely used 1-800-SMOG Info line that provides callers daily air quality forecasts and burn status information by county
- Developing the Healthy Air Living (HAL) Kids program to engage kids in air quality issues through partnerships with Valley PBS stations
- Launching HAL and creating understanding with the public through a variety of different outreach strategies and materials, including:
 - HAL logo development
 - Quick screen displays for events and District lobbies
 - HAL Website
 - HAL Partners program
- Assisting with public workshops

- Producing eTRIP handbook, correspondence letters and marketing class to engage businesses and help them understand and follow District Rule 9410 (Employer Based Trip Reduction)
- Creating and administering the annual HAL Kids Calendar featuring youth artwork
- Developing materials and crafting outreach targeted to the District's environmental justice areas
- Advertising through Cinemedia and movie lobby posters program during peak movie-going seasons (summer, holidays)
- Targeted District health video played in medical offices throughout the Valley
- Creating "Don't Burn Trash" messaging and placed in strategic areas in response to public needs and observations of the District's Compliance Department
- Valley Air District Air Quality Reports: Free media - branded daily air quality reports – Spanish- and English-language radio & TV
- Developing campaign targeting real estate brokers to ensure they are in compliance with the wood stove change-out program upon each home sale, included direct mail, internet ads, Eblasts, flyers and radio sponsorship on real estate shows
- Leveraging partnerships with bike coalition groups, asthma coalitions and local COGS to promote "Earth Day," "Bike to Work" and "Rideshare" weeks
- Developing "New Media" strategy for the District, which leverages the power of social media sites such as Facebook, Twitter and YouTube
- Utilizing video more aggressively to communicate key website information in a more exciting way and to provide District-focused footage to media outlets
- Producing outreach pieces on a wide variety of District programs including grants, asbestos, compliance, permitting, etc.
- Redeveloping the District's valleyair.org homepage to make it easier to navigate, including:
 - Major overhaul of the grants section to better serve potential applicants
 - Creation of a widget or digital tool to allow schools to place RAAN monitoring information directly on their homepage
- Conducting a series of successful symposiums, conferences, town hall meetings and community meetings
 - The 2015 Transboundary Ozone Conference
 - The 2012 PM and Lawn care Symposium
 - Multiple general air quality conferences
- Conducting hundreds of presentations throughout the Valley on air quality topics, and responding to tens of thousands of public calls and emails

G.2 PUBLIC EDUCATION AND OUTREACH PROGRAMS

Air Pollution levels can vary greatly during the day. While the District issues a daily air quality forecast for each county in the air basin, localized air quality often deviates from these generalized, county-wide, daily forecasts. Numerous pollutants and meteorological parameters are measured throughout the Valley on a daily basis using

an extensive air monitoring network managed by the District and ARB. The network measures pollutant concentrations necessary to show progress toward compliance with the national ambient air quality standards. The network also provides real-time air quality measurements used for daily air quality forecasts, residential wood-burning declarations, Air Alerts, and RAAN.

G.2.1 Air Alerts

The District developed the Air Alerts notification system to address potential exceedances of the 1-hour ozone standard. The Air Alert program is credited with being the critical component in the District's attainment of the 1-hour ozone health standard. Routinely implemented in August and September during back to school time, Air Alerts notify the public when conditions are conducive to the formation of elevated ozone levels, giving people ample advance notice to put emission-reducing practices into place. Notification is provided through the District's website, direct faxes, social media, and emails using targeted recipient lists, Valley media advisories, and press releases. Besides being an effective tool to communicate ozone trends, the Air Alerts notification system is also a way to educate Valley residents and businesses about the economic penalty for exceeding the standard.

G.2.2 Real – Time Air Advisory Network (RAAN)

The District launched the Real-time Air Advisory Network (RAAN) in 2010. This program is the first communication network in the nation to provide automated notification of poor or changing local air quality to the public throughout the air basin. While the District initially developed the program for schools as a tool to determine appropriate levels of outdoor activity for their students, the District expanded the program in 2011, and it is now available to all Valley residents.

The District combines local air quality information with specific, concentration-based health recommendations that allow RAAN subscribers to make informed decisions about when and for whom outdoor activities should be limited. The knowledge that exercise magnifies the health risks of PM_{2.5} exposure motivated the District to develop the RAAN program. Heavy breathing, as during exercise, allows air pollutants, especially the smallest particles (those less than 0.1 microns (PM_{0.1}), also referred to as ultrafine particles), to more easily penetrate the alveolar region of the lungs. Particles that make it to this region are absorbed directly into the body's bloodstream. A 2003 study¹ found that during moderate exercise, 80% of inhaled PM_{0.1} were deposited in the lungs, compared to 60% lung retention while a person is at rest. However, because the volume of air exchanged per minute increased substantially during exercise, overall PM_{0.1} deposition increases by as much as 450%.

Anyone can subscribe to RAAN at no charge through the District's website (www.valleyair.org); all that is required is the subscriber's email address. Once

¹ Daigle, C.C., Chalupa, D.C., Gibb, F.R., Morrow, P.E., Oberdörster, G., Utell, M.J., and Frampton, M.W. (2003). Ultrafine Particle Deposition in Humans During Rest and Exercise. *Inhalation Toxicology*, 15, 539–552. DOI:10.1080/08958370390205065

subscribed, the District will send email notifications with a link to the real-time data of the closest monitoring station within the District's extensive monitoring network. The District sends automated notifications on an hourly basis when air quality deteriorates or improves.

G.2.3 Real-time Outdoor Activity Risk (ROAR)

To support the expanded RAAN program, the District developed the Real-time Outdoor Activity Risk (ROAR) scale. The levels of this scale provide specific recommendations and limitations for increasing levels of activity, from recess through competitive athletic events. This scale is based on the Air Quality Index system that is used for the daily air quality forecasts, but provides more detailed activity recommendations based on the latest health science. The ROAR system, when used in conjunction with RAAN notices and daily air quality forecasts, is part of a comprehensive set of tools available to schools and the public for effective health protection.

G.2.4 Web – Based Archived Air Quality (WAAQ) System

Providing accurate and up to date air quality information to Valley residents is a top priority for the District. This is especially important since there are times when the Valley's unique geography, topography, and meteorology overwhelm all clean air measures and lead to high pollution concentrations that may be unhealthy for Valley residents. High pollution concentrations also occur when exceptional events such as wildfires are experienced. Under these circumstances, the best course of action is to provide notifications to Valley residents so that sensitive individuals, in particular, can take precautions to minimize exposure.

Following-up on the success of the RAAN program, the District developed a system that provides air quality conditions on a neighborhood by neighborhood (4km x 4km) scale as opposed to being limited to only the readings from monitors. The District unveiled a state-of-the-art web tool for exploring historical air quality information at the neighborhood level. WAAQS allows anyone to compare air quality information over the past two decades in any Valley neighborhood. The District has now implemented WAAQS and it is available to the public on the District web at:

<http://www.valleyair.org/waaqs/>

G.2.5 Check Before You Burn

The Check Before You Burn outreach program is critical to the implementation of District Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters). Rule 4901, along with the Check Before You Burn program, is credited with reducing levels of PM2.5 emissions during the winter season to historically low levels. The rule and outreach program was amended in 2008 and again in 2014 to reflect more stringent federal health-based standards, and together they have achieved the highest level of public recognition and compliance of any District program, with 80% of Valley residents

professing awareness based on a 2014 public survey.² According to the same survey, 59 percent of the respondents (Valley-wide) with wood-burning devices never use their devices. These statistics are a testament to heightened public awareness resulting from the District's multilingual, multimedia, targeted public outreach campaigns.

Annual Check Before You Burn outreach campaigns feature District Governing Board members in outdoor, radio, and video media speaking to the public about how to get involved in clean air activities. The District also uses extensive social media posts (Facebook and Twitter) to reach even more segments of the Valley's population. In addition, the District's toll-free information line and website receives thousands of "hits" during the wood-burning season, specifically to access wood-burning forecast information.

G.2.6 Healthy Air Living (HAL)

Most of the District's outreach activities and programs are covered by the HAL umbrella. As a year-round message, the HAL goal of "make one change" promotes and encourages Valley residents and businesses to implement voluntary measures to reduce emissions and improve air quality. Many of the emission-reduction recommendations address PM2.5 emissions, either directly emitted or as byproducts of other pollutants (e.g. reducing the number of miles traveled in a car reduces NOx and, therefore, particulates).

Components of the HAL message include: *Blue Sky, Brown Sky; It's Up To You*, kids activity kits aimed at elementary school students and their parents; the *Healthy Air Living Kids Calendar* for kindergarteners through high-school students; and *Healthy Air Living Schools program* which provides tools for educators to protect their students' health from the harmful effects of air pollution. In addition to these specific programs and others, the HAL logo and message are incorporated into the District's communications, collateral, incentive materials, and outreach efforts.

G.2.7 Healthy Air Living Partners

Through the HAL Partners program, adopted in 2009, the District provides participating businesses and entities with tools and educational materials to promote voluntary actions by employers and their employees to reduce emissions or shift emission-producing activities to non-peak periods. Despite significant effort by the District, to date only 203 partners have enrolled in the program. In response to this lack of enrollment, the District took an item to the District's Governing Board during the May 2015 Study Session to explore other avenues for increasing participation in the program, including: increasing the value of the program to businesses, and enlisting private-sector agencies, such as local chambers of commerce, to recruit partners.

² San Joaquin Valley Air Pollution Control District: Memorandum to SJVUAPCD Governing Board, District's Public Opinion Survey Relating to Residential Wood Burning and Other Habits of Valley Residents. Fresno, CA: Public Governing Board Meeting, March 20, 2014. Available at http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2014/march/final/09.pdf

G.2.7.1 Current HAL Partners Program

The program focuses on the importance of factoring in air quality when making everyday business and personal decisions. The District offers the following to HAL Partners:

- A webpage with tools and support for HAL Partners
- An email list serve to send out HAL Partner information and monthly Valley Air News E-blasts
- District staff conducts HAL trainings in person or via the internet upon request
- Facebook and Twitter HAL updates
- Materials and templates for employers to conduct outreach to their employees such as, but not limited to:
 - Registration form
 - HAL logos
 - Newsletters/Email blasts
 - Letters of support
 - Resolutions of commitment
 - Alternative Transportation Resource Book
 - Telecommuting Resource Book
 - Outreach posters
 - Small prizes and incentives
- District staff attends HAL Partner events (such as lunches, meetings, fairs) upon request
- District staff to answer questions and provide tools and support as needed and requested by HAL Partners

In exchange, every year HAL Partners are asked to commit to the following:

- Submit a HAL Partner annual registration form (available online)
- Have the Executive Director, President or similar top level employee (or Council/ Board), sign a HAL Resolution. The resolution can be generated internally or the organization can use the sample version created by the District
- Designate a HAL Coordinator or Team that will be responsible for facilitating the partnership
- Have the HAL Coordinator or Team watch the brief, introductory training video available on the HAL website
- Have the HAL Coordinator or Team watch the brief supplementary videos that will periodically be available on the HAL website
- Have the HAL Coordinator or Team follow the Valley Air District on facebook and twitter
- Sign up to receive HAL listserv emails
- Host one HAL event (such as a lunch, meeting, fair) for employees
- Distribute the semi-annual HAL newsletter twice during the year (winter and summer). This newsletter can be generated internally or the organization can use the sample versions created by the District

- Share the District’s “Valley Air News” with all employees
- Distribute to employees District-generated brochures on a variety of topics including, but not limited to:
 - Healthy Air Living
 - Check Before You Burn
 - Clean-Air Yard Care
- Allow the District to post the organization logo and web address link on the HAL website as a Partner organization
- If possible, post the HAL logo and link on the organization’s website
- Distribute a letter or email, under the signature of the CEO, encouraging employees to get involved in the HAL Program
- Distribute important air-quality information as requested during episodes of poor air quality
- Post a HAL Partner Certification in a visible location at the workplace

Current methods of outreach to recruit Valley businesses and municipalities include:

- Each year, the District conducts thousands of inspections, and at each inspection, District staff spends time with the facility representative to encourage potential enrollment
- All permit applications include a check-box allowing businesses to request information to become a HAL Partner
- Face-to-face meetings with management at all Valley cities and counties
- Distribution of HAL Partner program information and recruitment messaging at various public meetings and events
- Enlisted and funded the Stockton Chamber of Commerce to promote HAL Partnership as a part of their San Joaquin Green Team effort over the past three years
- Enlisted and funded Kern Green, a non-profit organization in Bakersfield, in 2012 to recruit HAL Partners
- Developed a HAL website to profile and promote HAL Partners, which allows Partners to create online marketing profiles to share with the public
- In 2009, under District Rule 9410 (Employer Based Trip Reduction), businesses were given credit toward compliance with the rule mandate in lieu of more costly compliance options provided under the rule

G.2.7.2 *New Ideas to Increase Participation*

Given the tremendous challenges the Valley faces in meeting the ever-tightening federal air quality standards, the District’s hope when instituting this program was that thousands of businesses would sign up to be HAL Partners. The District believes that the failure to attract more entities to join the program can be attributed to the following:

- The bulk of the outreach effort to recruit potential partners has been done by District staff during compliance inspections and other interactions. Utilizing

representatives from other non-government entities to reach out to potential partners may bring a greater level of trust and buy-in

- When outside entities have been used in the past, partner recruitment has not been the primary focus but rather an add-on to other efforts
- Incentives for becoming a HAL Partner may not be sufficient
- Obligations imposed on HAL Partners may be excessive

The following changes were recommended to address the above challenges and enhance participation:

- Recruit non-governmental organizations such as chambers of commerce and non-profit organizations throughout the Valley to serve as ambassadors in recruiting HAL Partners
- Consider the following additional incentives:
 - Priority access to grant programs (when permissible by law)
 - Expedited permit processing for certain permitting actions
 - Community recognition
 - Reduced cost for attending District events and conferences
 - Waiver or discount on penalty fees
 - Provide District support letters and advice in obtaining air quality or energy-efficiency grants from other agencies
- Authorize the Executive Director/APCO to review obligations imposed on HAL Partners and eliminate unnecessary burden

G.2.7.3 *Decision of the Governing Board*

At the 2015 Study Session the Governing Board heard District suggestions for improving HAL Partner participations and discussed the potential options. Upon discussion by the Board there was a consensus that the commitments required for participation were perhaps too burdensome for many businesses. The Board directed staff to review the commitments and find ways to streamline them to encourage more active participation. In addition, the Board directed staff to convene separate focus groups representing industrial and municipal entities to garner feedback and suggestions regarding current barriers and potential incentives for increasing participation in the HAL Partner program.

G.3 PUBLIC PARTICIPATION

Non-regulatory strategies help accelerate attainment and have been an important part of the District's air quality attainment plans. The following strategies are supported by the District as alternative methods for the public to implement to reduce emissions in the Valley.

G.3.1 Green Purchasing and Contracting

Valley businesses and government agencies can get involved in air quality improvements by considering the environmental impacts when making purchasing and contracting decisions. Green purchasing and contracting is the selection of goods, services, and vehicles that have a reduced impact on human health and the environment when compared with other products that serve the same purpose. These efforts can reduce waste, energy consumption and the overall impact of day to day operations. When making purchasing decisions, preference should be given to environmentally responsible products, materials and supplies; fuel-efficient, low-emission and hybrid vehicles; energy-efficient and water-efficient appliances; and service providers who employ greener methods.

The District has created the *Green Purchasing and Contracting: A guide to reducing environmental impacts through the procurement process* guideline and made it available on the District webpage.³ The District has also set an example for other agencies by adopting and implementing its own Green Procurement & Sustainable Practices Policy in January 2012. The District will continue to support Valley organizations in adopting policies and practices to make green purchasing and contracting a routine part of their operations.

G.3.2 Energy Efficiency and Conservation

California has been on the forefront of developing renewable energy sources and has implemented regulations to ensure cleaner non-renewable energy. The District's involvement in energy efficiency and renewable energy is guided by its Regional Energy Efficiency Strategy (REES), adopted in January 2010.⁴ This policy identifies the District's commitment to fostering energy efficiency and clean energy alternatives as opportunities for emissions reductions. The District continues to work with stakeholders and state agencies to expand net metering and feed-in tariffs for use of solar and other renewable energy sources, promote energy efficiency programs for energy end users that will result in lower emissions and a more stable electrical distribution system, and develop measures that incentivize and encourage low-emission technologies for use of waste gas as an alternative to waste-gas venting or flaring.

Roadmap for Incorporating Energy Efficiency and Renewable Energy Policies and Programs into State Implementation Plans

On July 3, 2012, EPA released the first version of The Roadmap for incorporating Energy Efficiency/ Renewable Energy Policies and Programs into State and Tribal Implementation Plans which is part of EPA's effort to encourage state, tribal, and local

³ SJVAPCD. *Green Purchasing and Contracting: A guide to reducing environmental impacts through the procurement process*. Available at http://www.valleyair.org/Programs/FastTrack/2011/GreenPurchasingReport4-6-11%20_2_.pdf.

⁴ San Joaquin Valley Air Pollution Control District. (2010). *Approval of the District's Regional Energy Efficiency Strategy*. Memorandum to the SJVAPCD Governing Board. Public Hearing, January 21, 2010. http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2010/January/Agenda_Item_7_Jan_21_2010.pdf

agencies to consider incorporating energy efficiency and renewable energy policies and programs in their state and Tribal Implementation Plans (SIPs/TIPs). The initiative, available at <http://www.epa.gov/airquality/eere/>, includes a manual, training, tools, and technical assistance.

G.3.3 Eco-Driving

Finding ways, through education and outreach, to reduce emissions from mobile sources in the Valley is critical to attainment of federal air quality standards. One such program in development is Eco-Driving. Eco-Driving refers to everyday techniques that drivers can do to maximize the fuel economy of their vehicles. These include: observing good operating maintenance, such as proper tire pressure, wheel alignment, and oil viscosity; improving aerodynamics; traveling at efficient speeds; choosing the appropriate gear for manual transmissions; driving defensively to avoid unnecessary braking; accelerating at a constant pace; and other simple, yet often forgotten, driving techniques. As with other informational activities conducted by the District, an Eco-Driving program could be encompassed under the Healthy Air Living umbrella.

G.3.4 Alternative Energy Production

The District encourages cleaner ways of generating electricity and mechanical power, and moving vehicles, in addition to overall reductions in energy use. These alternative energy choices include renewable energy, waste-to-energy systems, and alternative fuels and vehicle technologies. The District also encourages the use of alternative energy sources that are clearly cleaner than industry standards in terms of criteria pollutants. The District's *Alternative Energy: On the Fast Track to Clean Air*⁵, is a guideline for considering clean energy options in the Valley that discuss, and provide additional resources for, the District's current recommendations regarding the most advantageous and viable alternative energy systems. Alternative energy choices include solar energy, wind turbines, biomass, dairy digesters, and electric irrigation pumps, just to name a few.

G.3.5 Replacement of High-Polluting Devices

The residents of the Valley can reduce emissions through the replacement of high-polluting devices with cleaner technologies. Two examples include the replacement of open hearth fireplaces and higher polluting wood burning devices with natural gas or certified EPA wood burning devices and the replacement of gas powered lawnmowers with electric lawnmowers. The District supports these transitions by providing incentive funding to replace high polluting units with cleaner alternatives. The District also supports the efforts of Valley residents to replace and/or repair motor vehicles through additional incentive programs. Examples of District incentive programs aimed at residents of the Valley include (see Appendix E):

- Burn Cleaner

⁵ SJVAPCD. *Alternative Energy: On the Fast Track to Clean Air. A Guide for Considering Clean Energy Options in the San Joaquin Valley*. Available at <http://www.valleyair.org/Programs/FastTrack/2011/Alternative%20Energy.pdf>

- Clean Green Yard Machine
- Polluting Automobile Scrap and Salvage (PASS)
- Vanpool Voucher
- Drive Clean

Additional details of these programs can be found on the District website at:
<http://valleyair.org/grants/>

G.3.6 Employer-Based Trip Reduction

The goal of District Rule 9410 (Employer-Based Trip Reduction) (eTRIP Rule) is to reduce single-occupancy-vehicle work commutes. The eTRIP Rule requires the Valley's larger employers, representing a wide range of locales and sectors, to select and implement workplace measures that make it easier for their employees to choose ridesharing and alternative transportation. Because of the diversity of employers covered by the eTRIP Rule, the rule was built with a flexible, menu-based approach. Using the eTRIP Plan, employers choose from a list of measures, each contributing to a workplace that encourages employees to reduce their dependence on single-occupancy vehicles. Each eTRIP measure has a point value, and employer eTRIP plans must reach specified point targets for each strategy. The District has continually provided employer assistance through training, guidance materials, promotional information, and online reporting options.