



# DESERT BREEZE

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## California's Zero Emission Vehicle Program

### Part 1 of 4

The California Air Resources Board's (CARB) Advanced Clean Cars program is a package of coordinated standards adopted to meet health based air quality standards and greenhouse gas emission reduction goals. Passenger vehicles and transportation fuels are significant sources of pollutants, that are included in the emission reduction goals. Included in these strategies is the Zero-Emission Vehicle (ZEV) Program.

The ZEV regulation, designed to achieve California's long-term emission reduction goals, has been modified many times over the last 30 years to reflect the state of technology and incorporate stakeholder input. Evolving incentives, part of California legislature adopted programs, are designed to promote acceptance and adoption of ZEVs.

In addition to financial incentives, a popular benefit available to purchasers of ZEVs has been the Clean Air Vehicle (CAV) program (incentives are also referred to by some as subsidies). The CAV decal program, new for 2019, is provisionally authorized by Assembly Bill 544 and includes changes to the previous decal program.

CAV decals, provisionally, allow the use of high-occupancy vehicle lanes (carpools) by single-occupant vehicles. Decals are issued by the Department of Motor Vehicles, and require an application, fees, (separate) registration, and specific placement of valid decals.

Green (for qualified plug-in hybrid vehicles) and White (for ZEVs) decals, issued prior to 2017 have expired, effective January 1, 2019.

Qualifying Green and White decal holders, issued between 1/1/2017 and 12/31/2018 are eligible to apply for a Red decal, subject to provisions, valid until 1/1/2022.

Purple decals, issued between 1/1/2019 and 12/31/2019, are valid until 1/1/2023.






If an eligible used vehicle has never been issued a Clean Air Vehicle decal, the new owner may apply for one. As with new eligible vehicles, the expiration date is based on the year the decal is issued. For Purple decals issued in 2019, the expiration date will be January 1, 2023.

All new decals issued under this program expire January 1<sup>st</sup> of the fourth year after the year in which they were issued. This provides an access period of three full years plus the partial year from when the decal was issued. For example, if a decal was issued anytime in 2019, it expires January 1, 2023.

This program will end, and any remaining valid decals will expire on September 30, 2025.

Look to the next quarterly issue of the Desert Breeze for elaboration on The Clean Vehicle Rebate Project (CVRP) and other incentives available to promote the purchase and lease of the cleanest vehicles, and help motivate consumers to select these new technologies that build demand and, over time, bring down costs.

By: *Brenton Smith*

Decal Type	First Year Issued	Decal Expired	Description
	2019	1/1/2023	These CAV decals are issued to vehicles that meet California's super ultra-low emission vehicle (SULEV) standard for exhaust emissions and the federal inherently low-emission vehicle (ILEV) evaporative emission standard. Vehicles that meet the state's enhanced advanced technology partial zero-emission (enhanced AT PZEV) vehicles or transitional zero emission vehicle (TZEV) standard. Liquefied petroleum gas (LPG) and compressed natural gas (CNG) fueled vehicles may also qualify for the CAV decal program. Visit ARB's website at <a href="http://www.arb.ca.gov">www.arb.ca.gov</a> for additional information on vehicle eligibility.  Ultra-low emission vehicles (ULEVs) are no longer eligible to participate in the CAV decal program after January 1, 2019.
	2018	1/1/2022	
	2004	7/1/2011	These decals were issued to early models of qualifying hybrid vehicles. These stickers were limited to the first 85,000 applicants.
	2012	1/1/2019	Green CAV decals were issued to vehicles that met California's Enhanced Advanced Technology Partial Zero-Emissions (enhanced AT PZEV) or Transitional Zero-Emissions (TZEV) standards for exhaust emissions
	2000	1/1/2019	White CAV decals were available to an unlimited number of qualifying Zero Emission Vehicles (ZEVs). Cars that met these requirements were typically 100% battery electric or hydrogen (H2) fuel cell vehicles. The program also included certain alternative-fueled vehicles, such as those operating on compressed natural gas (CNG) and certified to California's most stringent emission standards that also meet the California ultra-low emission vehicle (ULEV) standard for exhaust emissions and the federal ILEV standard.

## Pollutant of the Quarter: Hydrazine

Hydrazine ( $N_2H_4$ ) is a colorless, oily, fuming, flammable liquid with an ammonia-like odor. It is highly toxic and dangerously unstable unless handled in a solution (hydrazine hydrate). Hydrazine is primarily used as a foaming agent in preparing polymer foams, but significant applications also include polymerization catalysts, pharmaceuticals, agrochemicals, various rocket fuels, and to prepare the gas-forming agent used in vehicle air bags.

**Rocket fuel** — Hydrazine was first used as a component in various rocket fuels by the Germans during World War II. In all hydrazine monopropellant rocket engines, the hydrazine is passed by a catalyst such as iridium metal supported by high-surface-area alumina (aluminium oxide), which causes it to decompose into ammonia, nitrogen gas, and hydrogen gas. Reactions are extremely exothermic (the catalyst chamber can reach 800 °C in a matter of milliseconds,) and produce large volumes of hot gas from a small volume of liquid, making hydrazine an efficient thruster propellant.



Monopropellant hydrazine-fueled rocket engines are often used in terminal descent of spacecraft. Such engines were used on the Viking program landers in the 1970s as well as the Phoenix lander (May 2008) and Curiosity rover (August 2012) that landed on

Mars. Hydrazine aerospace applications also include low-power monopropellant for the maneuvering thrusters of spacecraft and powering the auxiliary power units (APUs) of the F-16 fighter jet, NASA Space Shuttle, and U-2 Spy Plane.

**Exposure** — Potential routes of hydrazine exposure can include inhalation, ingestion, or absorption through the skin or eyes. Individuals may be exposed to hydrazine in the workplace or to small amounts in tobacco smoke. The odor threshold for hydrazine is 3.7 ppm, thus if a worker is able to smell an ammonia-like odor then they are likely over the exposure limit.

Symptoms of short-term exposure to high levels of hydrazine may include irritation of the eyes, nose, and throat, dizziness, headache, nausea, pulmonary edema, seizures, and coma. The liquid is corrosive and may produce dermatitis from skin contact. Rodents given long-term exposure to high levels of hydrazine (via inhalation) have shown permanent detrimental effects to the lungs, liver, spleen, and thyroid. Therefore, EPA has classified hydrazine as a Group B2, probable human carcinogen.

For aerospace personnel, the USAF uses an emergency exposure guideline, developed by the National Academy of Science Committee on Toxicology, which is utilized for non-routine exposures of the public titled the Short-Term Public Emergency Exposure Guideline (SPEGL). The SPEGL, which does not apply to occupational exposures, is defined as the acceptable peak concentration for unpredicted, single, short-term emergency exposures of the general public and represents rare exposures in a worker's lifetime.

*By: Jeremiah Cravens*

## Grant Programs

The race for cleaner air requires time, effort, and most of all, money. Clean air programs are very important to the state of California and Eastern Kern Air Pollution Control District. Every step taken in incentivizing cleaner emitting engines, cars and home heating stoves helps improve our air quality. Money for these grants originate from a variety of sources, for instance, the penalty fines from the Volkswagen Cheat Device scandal or it could originate from State allocated funds. The funds are then distributed to each District in the State for grant programs.

The **FARMER Grant Program** helps farmers replace their old farm equipment. Specifically, it provides grants for agricultural vehicles, equipment and engines that use diesel fuel. You may be eligible to receive up to 80% of the total cost of the equipment but would have to dispose of the old equipment in the process.

The **Woodsmoke Reduction Program** uses cap-and-trade dollar funding to help residential homes replace their inefficient wood burning stoves and fireplaces with a cleaner burning more efficient device. These stoves/

fireplaces would have to be the primary source of heat for the household. Eligible applicants are given up to \$4,000 towards the purchase and installation of a qualifying device, and installation would have to be done by a certified contractor.

The **DMV Grant Voucher Program** helps bring cleaner cars on the road. Assembly Bill 2766 authorized the Department of Motor Vehicles to collect a motor vehicle registration clean air surcharge of \$4 per vehicle. The revenue is then used to help with reducing air pollution that deals with motor vehicles directly and indirectly (i.e. dust caused by roads frequented by motor vehicles). Eligible applicants may receive a \$2,000 voucher for the purchase of a PZEV (Partial Zero Emission Vehicle) or they could receive a \$3,000 for a ZEV (Zero Emission Vehicle). You must have a primary residence in our District to receive the voucher.

Every emission source that the District devotes time and resources impacts air quality in a positive way. The District will continue to offer these grant programs to Eastern Kern residents, and even more in the future.

*By: Nicole Dickerson*





## District Retirees

### LOUISE ROMAN

Louise began her career in 1981 as a Clerk Typist with the D.A.'s office. She joined the Kern County Air Pollution Control District (KCAPCD) in 1986 as a Word Process Technician I/II, and her duties consisted of billing and permit renewals.

In 1992 the KCAPCD was split in two: the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) and the eastern portion of Kern County remained KCAPCD (renamed Eastern Kern Air Pollution Control District in 2010). Louise, and a few others, decided to stay with KCAPCD while the bulk were hired by the SJVUAPCD. Louise assisted in the splitting of records between the two districts, redistribution of workloads, revised staff duties, and database management.

In 1994, payroll and other budgetary and administrative duties were shifted from another county agency to the sole responsibility of the District. Louise assumed the responsibilities of the administrative tasks and was promoted to an Administrative Coordinator in 1996. Through the years, Louise has supervised administrative staff, assisted in budget plans and estimates, and confers with the department head to determine plans and programs. The responsibilities that Louise elected to undertake for the past two decades, her hard work, and dedication earned her the promotion to an Business Manager in 2014. The position was re-named Air Quality Administrative Manager in 2018.

Louise has shown exceptional leadership during her service and partnered with three Air Pollution Control Officers during her tenure. Her determination, knowledge and 38 years of experience will be missed.

### JOHN HAYES

I began my career in the production industry, but ever since my college days, where I majored in biology, I always wanted to work in the environmental sector. I feel very fortunate for the career change, especially being hired as an Air Quality Specialist at the ripe age of 59 (yes, I'm 70 now). I was able to learn new things, particularly as they pertained to air quality monitoring, asbestos compliance, and inspections of diverse sources (military installations, cement plants, and mining). The best part, though, are the people I get to meet...the people that I work with in the District, at source inspections, and other colleagues throughout the state of California (to include CARB, EPA and other districts).

I have spent 11 years at the District, but the time has come for me to say goodbye. No, I'm not dying! just moving on to the next phase of life...retirement. My plans for retirement are the following: Take more charge of the household duties, as my wife is working 2 or 3 more years, increase my gym rat status, ride my road bicycle, spend more time with my grand-kids, become more active in my church, and do some community service in Tehachapi.

I want to thank, especially, my colleagues at the District for their kindness and professionalism. Rarely is it attainable to go through a stint at a job without a cross word, but that has been the case here. People here have shown utmost thoughtfulness and consideration throughout this stint so very consistently. I will forever remember my time here as an unquestionable rarity.

Farewell, Colleagues and Sources. Sincerely, John Hayes

## Welcoming New Board Members

Tehachapi Councilmember **Michael Davies** was elected on November 6, 2018 to fulfill the remaining two-year term of the deceased Ed Grimes. On January 22, 2019, Davies was appointed to the Eastern Kern Air Pollution Control District's (District) Board of Directors to represent the city of Tehachapi.



Davies, a Tehachapi resident since 1981, has been active in the community through his involvement as an umpire and game official with the Tehachapi Valley Recreation and Parks District. He is also in a leadership position with the Church of Jesus Christ of Latter-Day Saints in Tehachapi. Since 1994, Davies has been involved with the Kern County Sheriff's Department Citizens Service Unit. As a volunteer sergeant, he regularly patrols the unincorporated areas of Tehachapi and volunteers at large community events such as the Kern County Fair.

A dedicated husband of 38 years, father to three daughters and grandfather to five grandchildren.

Ridgecrest Councilmember **Mike Mower** has been in the area for over 40 years and has a bachelor's degree in finance. He served on the Ridgecrest City Council from 1984 to 1992, four years of that as mayor. Mower was re-elected to the Ridgecrest City Council in 2014 and again in 2018.

Mower has served on the Ridgecrest Regional Hospital board of directors for about 30 years and was also the Planning Commission chairman. Mower serves on numerous committees, such as the City Organization and Services Committee, Kern Council of Governments (COG) Committee, Infrastructure Committee, and the Finance Committee. On December 5, 2018, Mower was appointed to the District's Board of Directors to represent the city of Ridgecrest.



At the Republican Women's forum last year, Mower said that he has numerous children and grandchildren and joked that you could say he has personally contributed to the population of Ridgecrest.

### **Board of Directors**

Don Parris, Chairman (Councilman, California City)  
Zack Scrivner , Vice Chair (KC 2nd District Supervisor)  
Mick Gleason (KC 1st District Supervisor)  
Mike Mower (Councilman, Ridgecrest)  
Michael Davies (Councilman, Tehachapi)

Board of Directors usually meet once every two months starting in January at the Tehachapi Police Department Community Room.

### **Air Pollution Control Officer**

Glen E. Stephens, P.E.

### **Hearing Board Members**

William Deaver  
Doris Lora  
Chris Ellis  
Charles Arbaut



For news updates and other information, please visit the Eastern Kern APCD website at [www.kernair.org](http://www.kernair.org)

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