

State of California  
AIR RESOURCES BOARD

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Resolution 97-15

RESOURCES AGENCY OF CALIFORNIA

March 27, 1997

Agenda Item No.: 97-2-2

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the Board) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Health and Safety Code section 43018(a) directs the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

WHEREAS, Health and Safety Code section 43018(c) provides that in carrying out section 43018, the Board shall adopt standards and regulations which will result in the most cost-effective combination of control measures on all classes of motor vehicles and motor vehicle fuel, including but not limited to the specifications of vehicular fuel composition;

WHEREAS, Health and Safety Code section 43013 authorizes the Board to adopt and implement motor vehicle fuel specifications for the control of air contaminants and sources of air pollution which the Board has found to be necessary, cost-effective, and technologically feasible to carry out the purposes of Division 26 of the Health and Safety Code;

WHEREAS, as originally adopted in 1992, Title 13, California Code of Regulations, section 2292.6 provided that liquefied petroleum gas (LPG) intended for use in motor vehicles in California must have a propylene (propene) content not exceeding ten volume percent for LPG sold or supplied between January 1, 1993 and December 31, 1994, and not exceeding five volume percent for LPG sold or supplied on or after January 1, 1995;

WHEREAS, due to the lack of reliable supplies of sufficient quantities of vehicular LPG having a propene content of five percent or less, in September 1994 the Board adopted a two-year extension of the interim ten percent propene content limit for vehicular LPG, through December 31, 1996;

WHEREAS, in a letter dated September 20, 1996, the Western Propane Gas Association (WPGA) petitioned the Board to extend the ten volume percent propene content limit for LPG beyond January 1, 1997;

WHEREAS, the staff has proposed a regulatory amendment that would revise the required specifications for LPG intended for use in motor vehicles in California to retain the maximum propene limit of ten volume percent through December 31, 1998, and to delay imposition of the maximum propene limit of five volume percent until January 1, 1999;

WHEREAS, the regulatory proposal would be effected by the amendment to Title 13, California Code of Regulations, section 2292.6 set forth in Attachment A hereto;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, the Board has considered the impact of the proposed amendment on the economy of the state;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with section 11340), Part 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Board finds that:

It is necessary and appropriate to delay, until January 1, 1999, the imposition of the maximum propene limit of five volume percent for LPG sold commercially for use in motor vehicles in California, in order to reduce the possibility of disruptions in the distribution of motor vehicle LPG and of hampering the development of LPG as a motor fuel;

It is appropriate to investigate a revision of the specification of LPG for motor vehicles to help assure that LPG used in vehicles will not cause excessive emissions, will preserve engine performance and durability, and will be commercially viable to produce and distribute;

It is appropriate to investigate the interest of air pollution control districts in extending LPG specifications from motor vehicle fuel to stationary source fuel to control the reactivity of stationary source emissions and to avoid the need for segregating a separate grade of LPG for vehicles;

The proposed amendment to section 2292.6 will not affect the State Implementation Plan (the SIP) because section 2292.6 is not part of the SIP; and

The amendments adopted herein will not have an adverse impact on the economy of the state;

WHEREAS, the Board further finds that:

Based on the extrapolation of the limited available vehicle emissions tests to the at-most 45,000 LPG-fueled on-road vehicle fleet statewide, and assuming the continuation of the current propene content of motor vehicle LPG, the proposed amendments would for two years delay emission reductions of about 0.02 tons per day (tpd) non-methane hydrocarbons (reactivity-adjusted), 0.01 tpd oxides of nitrogen, and 2 tpd carbon monoxide;

The proposed regulatory action that will result in these limited and short-term emission reduction delays is justified by the overriding need to avoid potential disruptions in the distribution of vehicular LPG; and

There are no feasible mitigation measures or alternatives available to the Board, other than the incorporated two-year limit on the extension of the 10 volume percent propene standard, that would substantially reduce the potential adverse impacts of the proposed regulatory action while at the same time assuring that disruptions in the distribution of complying vehicular LPG will not occur.

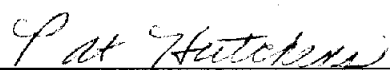
NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the amendment to section 2292.6, Title 13, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to convene a working group of interested parties to discuss the technical issues of emissions, fuel requirements of future LPG vehicles and engines, and the economics of LPG production and marketing, in order to develop a consensus standard for the propene content of vehicular LPG.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to investigate the potential for air pollution control and management districts to control the propene content of nonvehicular LPG, in order to reduce the reactivity and mass of emissions, and to have a single, market-wide standard.

BE IT FURTHER RESOLVED that it is the intent of the Board that it will not adopt a further postponement of the five percent propene content standard for vehicular LPG, and that by the end of 1998 the Board either will adopt an appropriate consensus standard for the vehicular LPG propene content of vehicular LPG if one is developed, or will have the five percent propene content standard become applicable.

I hereby certify that the above is a true and correct copy of Resolution 97-15, as adopted by the Air Resources Board.

  
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Pat Hutchens, Clerk of the Board

## ATTACHMENT A

Amend section 2292.6, Title 13, California code of Regulations, to read as follows:

[Proposed deletions are shown in ~~strike-out~~ type. Proposed additions are underlined.]

### Section 2292.6 **Specifications for Liquefied Petroleum Gas**

The following standards apply to liquefied petroleum gas (the identified methods are incorporated herein by reference):

#### Specifications for Liquefied Petroleum Gas

Specification	Value	Test Method
Propane	85.0 vol. % (min.) a/	ASTM D 2163-87
Vapor Press. at 100° F	208 psig (max.)	ASTM D 1267-89 ASTM D 2598-88 b/
Volatility residue: evaporated temp., 95% or butane and heavier	-37° F (max.)  2.5 vol. % (max.)	ASTM D 1837-86  ASTM D 2163-87
Propene	5.0 vol. % (max.) c/	ASTM D 2163-87
Residual matter: residue on evap. of 100 ml oil stain observed.	0.05 ml (max.)  pass d/	ASTM D 2158-89 ASTM D 2158-89
Corrosion, copper strip	No. 1 (max.)	ASTM D 1838-89
Sulfur	120 ppmw (max.)	ASTM D 2784-89
Moisture content	pass	ASTM D 2713-86
Odorant	e/	

a/ Propane shall be required to be a minimum of 80.0 volume percent starting on January 1, 1993. Starting on January 1, 1997, the minimum propane content shall be 85.0 volume percent.

b/ In case of dispute about the vapor pressure of a product, the value actually determined by Test Method ASTM D 1267-89 shall prevail over the value calculated by Practice ASTM D 2598-88.

- c/ The propene shall be limited to 10.0 volume percent starting January 1, 1993. Starting January 1, ~~1997~~ 1999, the propene limit shall be 5.0 volume percent.
- d/ An acceptable product shall not yield a persistent oil ring when 0.3 ml of solvent residue mixture is added to a filter paper, in 0.1 ml increments and examined in daylight after 2 min. as described in Test Method ASTM 2158-89.
- e/ The liquefied petroleum gas upon vaporization at ambient conditions must have a distinctive odor potent enough for its presence to be detected down to a concentration in air of not over 1/5 (one-fifth) of the lower limit of flammability