



State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF THE SECRETARY

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Issued: March 3, 2008

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* **DECLARATORY RULING**
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* **No. DR-08-001**
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DECLARATORY RULING

Subject: **Applicability of the requirements of LAC 33:III.2132 for a CARB certified Stage II Vapor Recovery System for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities dispensing 85% Ethanol and 15% Gasoline Blended fuel (E85). This ruling applies only to segregated E85 fueling systems.**

Under the authority of the Environmental Quality Act, La. R.S. 30:2001 *et seq.*, and in accordance with LAC 33:I.1125.A, the Secretary of the Louisiana Department of Environmental Quality (LDEQ) hereby issues this declaratory ruling regarding the applicability of LAC 33:III.2132's requirement for CARB certified Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at segregated Gasoline Dispensing Facilities before dispensing 85% ethanol and 15% gasoline blended fuel (E85). **This ruling applies only to segregated E85 fueling systems.**

Background

The Clean Air Act Amendments (CAAA) of 1990, 42 U.S.C. 7401 *et seq.*, and the regulations promulgated thereunder, require all gasoline dispensing facilities located in areas classified as extreme, severe, serious, or moderate nonattainment of the 1-hour ozone standard, to have Stage II vapor recovery systems in place and operational. The Louisiana parishes of Ascension, East Baton Rouge, Iberville, Livingston, Point Coupee and West Baton Rouge were found by the Environmental Protection Agency (EPA) to be in non-attainment. Louisiana, along with other actions taken to comply with the CAAA, adopted

La. R.S. 30:2051 *et seq.*, and promulgated LAC 33:III.2132 *et seq.* to require implementation of Stage II recovery systems for facilities dispensing motor vehicle fuel in the affected parishes.

The Stage II Vapor Recovery regulations were originally promulgated in November 1992. Under LAC 33:III.2132.B.1, the regulations applied to “*motor vehicle fuel* dispensing facilities in the affected parishes of Ascension, East Baton Rouge, Iberville, Livingston, Pointe Coupee, and West Baton Rouge.” Motor vehicle fuel dispensing facilities in those parishes could not “cause or allow the dispensing of motor vehicle fuel at any time unless all fuel dispensing operations are equipped with and utilize a **Stage II vapor recovery system certified by CARB (the California Air Resources Board) on or before March 31, 2001,**” LAC 33:III.2132.B.5. Currently, there are no CARB certified vapor recovery systems for E85, a fuel that could not be burned in the vast majority of motor vehicles available to the public at the time of the adoption of the regulations. LAC 33:III.2132.A defines “*Motor Vehicle Fuel*” as “any petroleum distillate having a Reid vapor pressure of more than four pounds per square inch as determined by ASTM Method D323 and which is used primarily to power motor vehicles. This definition includes, but is not limited to, gasoline and mixtures of simple alcohols and gasoline.” E85 is a blend of approximately 85% alcohol with 15% gasoline. At the time of the adoption of the regulations, the predominate blend of gasoline and alcohol anticipated and which could be used in motor vehicles available to the public was a blend of 90% gasoline with 10% alcohol (E10 or gasohol). CARB certified systems currently exist for conventional fuel dispensing equipment dispensing gasohol, but do not exist for E85 systems.

From approximately 1998, in limited areas, the manufacturers began producing vehicles capable of burning differing blends of alcohol and gasoline, including E85. These vehicles contained on board fuel systems intended to capture emissions during refueling. The sale of these vehicles has steadily increased. Since the majority, if not all, of E85 fuel capable vehicles have onboard refueling vapor recovery systems installed, US EPA, in the December 12, 2006 memo attached to this ruling, announced that it will allow states flexibility to exempt E85 refueling equipment from Stage II vapor recovery requirements by making changes to its State Implementation Plan (SIP). LDEQ will be amending its SIP to exclude segregated E85 fueling systems from the requirement to have CARB certified emission control systems in place before dispensing the E85.

Ruling

The regulations as originally promulgated were intended to prevent vapor emissions to the atmosphere at fuel dispensing facilities. The regulations requiring Stage II vapor recovery were intended to require controls on those emissions “at the pump” and were not intended to ban the use of alcohol/gasoline blended fuels. They expressly provided that alcohol/gasoline blends *can* be dispensed if they have a CARB certified vapor control system on the dispensing equipment. No CARB certified system is available for E85, as any vehicle

currently capable of using E85 has an "on board" fuel emission control system that renders the need for dispenser based systems unnecessary. LAC 33:III.2132.B was intended to prevent emissions, not to ban the sale of alcohol/gasoline blends.

It is the Secretary's ruling that LAC 33:III.2132.B.5's ban on the dispensing of motor vehicle fuel without a "Stage II recovery system certified by CARB on or before March 31, 2001" does not apply to segregated E85 dispensing systems which can only dispense E85 to vehicles which have on board emission control equipment. This ruling will be applicable until such time as the LDEQ promulgates a formal change in its State Implementation Plan (SIP) which will incorporate amended regulations consistent with this ruling.

Reasons for Ruling

The LDEQ is aware of fuel dispensing facilities in Louisiana that are beginning to convert from gasoline to E85 (85% ethanol, 15% gasoline). One facility in Louisiana is currently selling E85. An additional facility in Baton Rouge has nearly completed the conversion process from gasoline to E85. According to Clean Fuels Development Corporation, three other fueling facilities in the Baton Rouge area are preparing to begin the E85 equipment conversion process. The LDEQ expects many more fueling stations will begin to install E85 dispensing equipment in the near future.

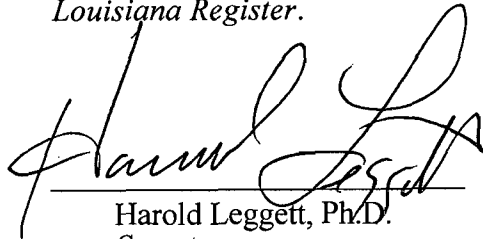
Requiring CARB certified Stage II vapor recovery equipment, even if available, would be an unnecessary expense because emissions that would be vented to the atmosphere are captured via the vehicle's On Board Refueling Vapor Recovery (ORVR) instead of the Stage II dispenser equipment. The US EPA estimates it costs about \$40,000 to install a vacuum-assist system and \$4,100 per year to maintain it. EPA phased in ORVR systems for light-duty automobiles starting with model year 1998. All light-duty automobiles manufactured after 2000 were required to be equipped with ORVR. Phase-in of ORVR for light-duty trucks began in model year 2001, and by model year 2003, all new light-duty trucks were required to have ORVR systems. Starting in 2004, medium-duty trucks were required to be equipped with ORVR and this phase was completed by the end of 2006.

This ruling will enable gasoline dispensing facilities in the non-attainment parishes to begin to dispense E85 fuel from segregated systems without having to install a CARB certified emission system which would unduly delay availability of the fuel with no appreciable environmental benefit. E85 is an alternative fuel consisting of 85% ethanol and 15% gasoline designed for use in flexible fuel vehicles. Interest in ethanol as a vehicle fuel is due to its ability to replace gasoline from imported oil. E85 also provides important reductions in greenhouse gas (GHG) emissions. E85 can further reduce emissions of certain pollutants as compared to conventional gasoline or lower volume ethanol blends.

Affected Sources

Affected sources are segregated E85 dispensing systems at gasoline dispensing facilities in the nonattainment parishes.

In accordance with LAC 33:I.1149.B.3, this declaratory ruling shall be published in the *Louisiana Register*.



Harold Leggett, Ph.D.
Secretary

3 March 08

Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

DEC 12 2006

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Removal of Stage II Vapor Recovery in Situations Where Widespread Use of Onboard Refueling Vapor Recovery is Demonstrated

FROM: Stephen D. Page, Director *Steve Page*
Office of Air Quality Planning and Standards

Margo Tsigotis Oge, Director *Margo T. Oge*
Office of Transportation and Air Quality

TO: Regional Air Division Directors

The purpose of this memorandum is to provide guidance to States concerning the removal of Stage II gasoline vapor recovery systems where States demonstrate to EPA that widespread use of onboard refueling vapor recovery (ORVR) has occurred in specific portions of the motor vehicle fleet. The specific fleets addressed here include:

1. initial fueling of new vehicles at automobile assembly plants
2. refueling of rental cars at rental car facilities
3. refueling of flexible fuel vehicles at E85 dispensing pumps

Background

Stage II vapor recovery systems are required to be used at gasoline dispensing facilities located in serious, severe, and extreme non-attainment areas for ozone under section 182(b)(3) of the Clean Air Act (CAA). States have included these control measures in their federally-approved state implementation plans (SIPs) in the form of generally applicable regulatory requirements governing all gasoline dispensing facilities that exceed the relevant gasoline dispensing throughput criteria. However, section 202(a)(6) of the CAA allows EPA to revise or waive the section 182(b)(3) Stage II requirement for these ozone non-attainment areas after the Agency determines that ORVR is in widespread use throughout the motor vehicle fleet.

CAA section 202(a)(6) does not specify which motor vehicle fleet must be the subject of a widespread use determination before EPA may revise or waive the section 182(b)(3) Stage II requirement. Nor does the CAA identify what level of ORVR use in the motor vehicle fleet must be reached before it is "widespread." EPA expects the possibility of

different rates of the implementation of ORVR across different geographic regions and among different types of motor vehicle fleets within any region. Given this, EPA does not believe that CAA section 202(a)(6) must be read narrowly to allow a widespread use determination and waiver of the Stage II requirement for a given area or area's fleet only if ORVR use has become widespread throughout the entire United States, or only if ORVR use has reached a definite level in each area. Rather, EPA believes that section 202(a)(6) allows the Agency to apply the widespread use criterion to either the entire motor vehicle fleet in a State or non-attainment area, or to special segments of the overall fleet for which ORVR use is shown to be sufficiently high, and to base widespread use determinations on differing levels of ORVR use, as appropriate. Moreover, a single national rulemaking is not needed to grant such a waiver for a specific area. Instead, EPA believes that the Act allows the Agency to use an area-specific rulemaking approving a SIP revision to issue the section 202(a)(6) waiver for a relevant fleet in a non-attainment area, where a State meets the recommended criteria discussed below.

Various metrics have been studied for demonstrating widespread use of ORVR in motor vehicle fleets. One metric focuses on the percentage of vehicles in service that are ORVR-equipped. Based on our preliminary analysis, this metric seems to track fairly closely with the percentage of vehicle miles traveled (VMT) from ORVR-equipped vehicles, and with the percentage of gasoline sold which is dispensed to ORVR-equipped vehicles. In fact, since newer vehicles tend to be driven more miles than older models, VMT traveled by ORVR-equipped vehicles and gasoline dispensed to ORVR-equipped vehicles may exceed 95 percent in a 95 percent ORVR-equipped fleet.

Another metric that EPA considered is when VOC emissions resulting from the application of ORVR controls alone equal the VOC emissions when both Stage II vapor recovery systems and ORVR controls are used, after accounting for incompatibility excess emissions. The incompatibility excess emissions factor relates to losses in control efficiency when certain types of Stage II and ORVR are used together. Studies conducted in three northeastern states indicate that when the percentages of motor vehicles in service with ORVR, vehicle miles traveled by ORVR-equipped vehicles, or gasoline dispensed to ORVR-equipped vehicles are above 95 percent, then the widespread use metric based on comparable VOC emissions will likely have been reached. For this reason, EPA believes that if 95 percent of the vehicles in a fleet have ORVR, then widespread use will likely have been demonstrated.

1. Initial Fueling at Automobile Assembly Plants

Based on our preliminary analysis, EPA expects that if a State's submission of a SIP revision shows that 95 percent of the new vehicles fueled at an automobile assembly plant are equipped with ORVR, and that this level of ORVR use would not decrease, the Agency can determine that widespread use of ORVR has been achieved for the fleet of motor vehicles that are fueled at that facility.

Since model year 2000, all passenger cars have been required to have ORVR. Also since 2006, all light duty trucks, SUVs and medium duty vehicles are required to be equipped

with ORVR. There may be a few situations, such as the chassis for motorized mobile homes, which still do not have ORVR. However, the number of these would be small. It is apparent that at most automobile assembly plants greater than 95 percent of the vehicles manufactured would have ORVR. Many assembly plants manufacture 100 percent ORVR equipped vehicles. Only such new vehicles are expected to be fueled at the automobile assembly plants.

States desiring to remove the Stage II requirement for these facilities would need to submit a SIP revision that EPA would evaluate through notice and comment rulemaking. The SIP would need to demonstrate that the widespread use benchmark has been achieved and provide assurance that any facility wishing to remove Stage II equipment maintains its eligibility for its motor vehicle fleet. Any EPA SIP approval would also be subject to the CAA section 110(l) requirement that the revision not interfere with any applicable requirement concerning attainment and reasonable further progress, or any other requirement of the CAA.

2. Refueling of Rental Cars at Rental Car Facilities

Similarly, EPA expects that if a SIP revision submission demonstrates that 95 percent of the vehicles in an automobile rental fleet refueling at a rental car facility are equipped with ORVR and that this level of ORVR use would not decrease, then widespread use of ORVR could be found for the motor vehicle fleet refueling at that facility. Most large rental car companies rent current model vehicles that would all have ORVR. There may be truck rental companies which have older vehicles which do not have ORVR and that would not be able to demonstrate widespread use of ORVR for their fleets. As discussed above, any SIP revision would be subject to CAA section 110(l) and other applicable requirements, and State and local agencies should consider any potential transportation conformity impacts if Stage II is currently included in a SIP's on-road motor vehicle emissions budget.

3. Refueling Flexible Fuel Vehicles at E85 Dispensing Pumps

E85 is a motor vehicle fuel that is a blend of as little as 15 percent gasoline and up to 85 percent ethanol. (In wintertime applications, the ratio may be 30 percent gasoline and 70 percent ethanol.) Ethanol is ethyl alcohol, a type of alcohol which can be produced from renewable resources such as corn. Based on the agency's survey of existing SIPs, EPA believes that most States have defined "gasoline" (for purposes of controlling emissions of VOC from refueling activities) to include gasoline/alcohol blends that have the same volatility as E85. EPA's guidance for States in developing their Stage II SIPs in the early 1990s suggested that States use the same definition of "gasoline" as the one found in EPA's Standards of Performance for Bulk Gasoline Terminals at 40 C.F.R. 60.501, which includes "any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (kPa) or greater which is used as a fuel for internal combustion engines." EPA recommended using this definition to most broadly reach situations in which refueling of motor vehicles results in evaporative VOC emissions that contribute to ozone non-attainment concentrations, and to avoid a narrow interpretation of what is "gasoline" that

would allow significant VOC emissions from motor vehicle refueling activities in non-attainment areas to go uncontrolled.

E85 can only be used in specially designed flexible fuel vehicles (FFVs), which have mostly been manufactured since 1998. Since these are newer vehicles, most of them are equipped with ORVR, and every FFV built today has ORVR. Thus, most vehicles refueling at E85 dispensing pumps are already having their evaporative emissions captured, as in the cases of late model rental cars refueling at rental car facilities and newly manufactured cars being fueled for the first time at automobile assembly plants. EPA estimates that 59 percent of FFVs in current use are equipped with ORVR. The percentage of FFVs with ORVR will continue to climb as older vehicles are taken out of service and new models join the fleet. Across different ozone non-attainment areas and between States, these percentages may vary.

EPA believes that encouraging the use of E85 as a motor vehicle fuel reduces emissions of other air pollutants such as CO and benzene, a known human carcinogen, and reduces emissions of greenhouse gases. In addition, based on available information, the Agency is concerned that there is currently a lack of certified Stage II equipment for E85 (which may require different materials of construction than conventional Stage II equipment), and that the timing for when certified E85-compatible equipment will become widely available is uncertain. This may unnecessarily hinder E85 distribution in areas that now require Stage II.

Unlike in the cases of automobile assembly plants and rental car facilities, EPA is not recommending a specific percentage of the FFV fleet that should have ORVR before widespread use could be determined. This is because most E85 compatible vehicles are already equipped with ORVR and this percentage is increasing over time, whereas for automobile assembly plants and car rental facilities very high percentages of ORVR use have in most cases already been reached and are not expected to further increase significantly. The general use of ORVR in FFVs, instead, is expected to significantly increase, as are the miles driven by and amount of fuel dispensed to recent ORVR-equipped FFVs compared to those manufactured before 2000 without ORVR.

Moreover, we believe that in determining whether widespread use of ORVR has been demonstrated, it is reasonable under section 202(a)(6) to consider the VOC emissions impacts of removing Stage II, and that those impacts may inform the percentage of ORVR-equipped vehicles that would need to be achieved for a specific motor vehicle fleet or in a specific non-attainment area. EPA expects that the air quality impact of allowing E85 refueling facilities to operate without Stage II controls would likely be minimal in most non-attainment areas. FFVs currently comprise about 2 percent of the total US fleet. Non-ORVR FFVs are less 1 percent of the total U.S. vehicle fleet. EPA estimates that non-ORVR FFVs participate in only about 0.5 percent of all refueling events. Furthermore, because of the relatively small number of stations that offer E85 (around 1,000 out of 170,000 total refueling stations) EPA believes that very few of these non-ORVR refueling events actually occur at E85 pumps.

Considering the factors discussed above, if an area can demonstrate that any increase in emissions caused by operating E85 fueling facilities without Stage II controls is so small as to clearly not interfere with attainment of the ozone standard or reasonable further progress or any other applicable CAA requirement, then EPA expects it could find that ORVR is in widespread use for FFVs when refueling at E85 facilities in this area. These areas could then allow E85 facilities to operate without Stage II controls, after modifying their SIPs such that E85 is not included within the definition of "gasoline" for purposes of Stage II vapor recovery controls (or after taking other necessary SIP revision action). As discussed above, States would need to submit SIP revisions affecting this change to their current Stage II SIPs, which EPA would evaluate through notice and comment rulemaking, subject to the provisions of CAA section 110(l). In addition, State and local agencies should consider if there are any transportation conformity impacts related to removing Stage II, if emissions reductions from Stage II are included in a SIP's on-road motor vehicle emissions budget. Due to the expected rapid growth of E85 installations, EPA will explore the development of ways to expedite the SIP revision process for States which are dealing with the E85 issue.

General Exclusions from Widespread Use Determinations

States in the ozone transport region (OTR) are still required to apply Stage II, or a comparable measure, in all areas under 184(b)(2) of the CAA. This requirement is not affected by any widespread use determination or waiver of the section 182(b)(3) requirement granted under section 202(a)(6). For the independent section 184(b)(2) "comparable measure" requirement to not prevent an appropriate removal of Stage II controls, OTR States may want to revisit their previously approved comparable measure SIPs to consider substituting available non-Stage II measures for the Stage II controls they currently require.

Also, some States have chosen to add Stage II vapor recovery system requirements in their SIPs for ozone nonattainment areas that are classified in a category lower than "serious." While it is not necessary for States to demonstrate ORVR is in widespread use in moderate or cleaner ozone non-attainment areas, a revision of previously adopted SIP requirements to specifically waive Stage II requirements in such areas would need to comply with the provisions of CAA section 110(l) and, as described above, consider any transportation conformity impacts as applicable.

This guidance for widespread use determinations for special sectors would not necessarily apply to widespread use determinations for the general motor vehicle fleet. Within the overall motor vehicle fleet, the rate of penetration of ORVR-equipped vehicles has not advanced at the same rapid rates as for the fleets discussed in this memorandum. EPA is still considering the possible criteria for determining widespread use for the general fleet.