

Attachment A

Supporting Documentation for 110(l) and 193 Demonstration

Georgia Chapter 391-1-22, Georgia's Clean Fueled Fleet Rules

Federal Regulations And The Ozone Nonattainment Area

The Clean Fuel Fleet Program (CFFP) is a requirement of section 182(c)(4) of the CAA for areas that have been designated serious nonattainment or above for the ozone National Ambient Air Quality Standards (NAAQS). CFFP is listed as an applicable requirement in 40 CFR 51.900(f) (as well as in the proposed list of applicable requirements in 40 CFR 51.1100(o)). The Atlanta area was previously classified as severe for the previous 1-hour ozone NAAQS. The area was re-designated as attainment on June 15, 2005 [70FR 34660]. The Atlanta area was subsequently designated as nonattainment and classified as moderate for the 1997 8-hour ozone NAAQS. The Atlanta area was re-designated as attainment for the 1997 standard on December 2, 2013 [78FR 72040], prior to revocation of that standard. The Atlanta area is currently classified as a marginal nonattainment area for the 2008 8-hour ozone NAAQS [73 FR 16483].

In addition, the currently proposed rule for the "Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements" [78FR 34178] proposes to replace the current anti-backsliding requirements by amending 40 CFR Part 51 Subpart AA to address both the previously revoked 1-hour ozone NAAQS and the 1997 8-hour ozone NAAQS. The proposed anti-backsliding provisions for areas that are designated nonattainment for the 2008 NAAQS and attainment/maintenance for previous NAAQS are summarized in Table 2-2008 Ozone NAAQS Transition Obligations of the proposal as follows: "Area remains subject to existing section 175A maintenance plan for the previous NAAQS and requirements already in the SIP, subject to revision consistent with sections 110(l) and 193."

As indicated in the transmittal letter, 40 CFR 51.905(b) addresses state anti-backsliding requirements regarding implementation of applicable requirements after an area attains the 8-hour ozone NAAQS as follows: "A State remains subject to the obligations under paragraphs (a)(1)(i) and (a)(2) of this section until the area attains the 8-hour NAAQS. After the area attains the 8-hour NAAQS, the State may request such obligations be shifted to contingency measures, consistent with sections 110(l) and 193 of the CAA..."

Because the Atlanta area has attained the 1997 ozone NAAQS prior to revocation of that standard, Georgia's Clean Fueled Fleet Rules may be shifted to contingency measures, consistent with sections 110(l) and 193 of the CAA. Section 193 is a general savings clause pertaining to regulations, standards, rules, notices, orders, and guidance promulgated or issued prior to November 15, 1990. CFFP was effective on May 22, 1994. Therefore, the substantive CAA provision EPD will demonstrate compliance with in this demonstration is that of section 110(l).

Georgia Chapter 391-1-22, Clean Fuel Fleets Program

The Clean Fueled Fleets (CFF) Rules require that a percentage of a covered fleet's covered vehicle purchases must meet the clean fueled fleet (low emission) vehicle standards. Covered fleets included any public or private fleet that operated 10 or more covered vehicles in a covered

area, which for Georgia only included 13 counties around metro-Atlanta. Covered vehicles included light duty vehicles up to heavy-duty vehicles with a gross vehicle weight rating (GVWR) of 26,000 lbs that were or were capable of being centrally fueled. Table 1 below lists each of the vehicle emission classifications. Acronyms in Table 1 are displayed at the bottom of the table. The program included a number of exemptions for various categories including vehicles garaged at a personal residence and not centrally fueled. Law enforcement and emergency vehicles were other popular exempt categories. The program for light duty vehicles was phased in from 1999 to 2001 with 30% of covered purchases having to meet the low emission vehicle (LEV) standards in 1999, 50% in 2000, and 70% in 2001. The percentage requirements remain at 70% for 2002 and after. Heavy-duty vehicle purchases had to meet a 50% requirement beginning with the 1999 model year, and the percentage remained the same for each subsequent model year. The CFFP started in 1999 with 612 covered fleets. This number dwindled down to 345 as of 2007. The overwhelming reason for this decline was the result of fleets understanding the “garaged at a personal residence and not centrally fueled” exemption and applying it.

The U.S. Environmental Protection Agency (EPA) implemented the Tier II Light Duty Vehicle, Light Duty Truck, and medium-duty passenger vehicle standards for model year 2004 and later vehicles. These standards were fully phased in by model year 2009. The Tier II standards are presented in 40 CFR Part 86 Subpart S, particularly in 86.1811-04, 86.1811-09, and 86.1811-10. The Tier II standards are more stringent than the low emission vehicle (LEV) standards in the Clean Fueled Fleets Rules. These standards apply to all of the light-duty vehicle and light duty truck vehicle categories under the CFF Rule. EPA implemented new engine standards for heavy-duty diesel engines with a GVWR greater than 8500lbs beginning with the 2004 model year. These standards are more stringent than the LEV standards in the CFF Rules. The heavy-duty engine standards are presented in 40 CFR Part 86 Subpart S, particularly in 86.1816-05, 86.1816-08, 86.005-10, 86.008-10, 86.004-11, and 86.007-11. Other sections within Subpart S cover the light duty Tier III standards, which provide even lower standards.

Equivalency Demonstration

In the Clean Fueled Fleets rule, covered fleets are required to purchase clean fueled vehicles (CFVs), which at a minimum must meet the low emission vehicle (LEV) standards. The U.S. Environmental Protection Agency (EPA) implemented the light duty vehicle Tier II and new heavy-duty diesel engine standards in 2004. Both of these standards reduce tailpipe emission standards significantly over the LEV standards.

Georgia EPD analyzed the annual reports submitted for model years 2001 – 2004 and 2006 to determine the number of used vehicles purchased and the range of the model years. EPD determined that 98% of vehicle purchases are new. Only 2% of vehicles are purchased as used. Out of the used vehicles purchased, 80% would be 2004 and newer models. As a result, only 0.4% of vehicles purchased are 11 years or older. Since only, 30% of light duty and 50% of heavy-duty covered vehicle purchases are required to be clean fueled vehicles (CFVs), these used vehicles would not be required to be LEVs.

The Tier II standards were fully implemented in model year 2009. The table below illustrates the emission benefit of the Tier II and heavy-duty engine standards over LEV standards. The emission standards for Tier II in the table represent the 2009 model year and later (fully phased in). Although even more stringent heavy-duty engine standards were implemented by EPA in 2007 and fully phased in by 2010, the table below presents the emission standards as implemented in 2004.

Table 1: Clean Fueled Fleet Emission Comparison

Light-Duty Vehicle and Truck Emission Levels in grams/mile						Heavy-Duty Truck Emissions in grams/bhp-hr			
	LDV ¹ , LDT ² ≤6000 GVWR, ≤ 3750 LVW ³	LDT ≤6000 GVWR, >3750 LVW, ≤5750 LVW	LDT >6000 GVWR, ≤3750 TW	LDT >6000 GVWR, >3750 TW ⁴ ≤5750 TW	LDT >6000 GVWR, >5750 TW			Light Heavy-Duty Truck ≥ 8500 GVWR ≤14,500 GVWR	Medium Heavy- Duty Truck ≥ 8500 GVWR ≤ 26,000 GVWR
Tier II							2010		
NMHC ⁺	0.075	0.075	0.075	0.075	0.075		NMHC + NOx	2.4	2.4
NOx ⁺	0.11	0.11	0.11	0.11	0.11		PM	0.01	0.01
PM ⁺	0.02	0.02	0.02	0.02	0.02				
CFFV / LEV							CFFV / LEV		
NMHC ⁺	0.075	0.1	0.125	0.16	0.195		NMHC + NOx	3.8	3.8
NOx ⁺	0.2	0.4	0.4	0.7	1.1		PM	0.1	0.1
PM ⁺	0.08	0.08	0.08	0.1	0.12				
* Intermediate Life (50K miles)									
* Full Usefull Life (120K miles)									
Emission disbenefit per CFFV - grams / mile (negative sign illustrates benefit of Tier II over LEV)								grams/bhp-hr	
NMHC	0	-0.025	-0.05	-0.085	-0.12		NMHC + NOx	-1.4	-1.4
NOx	-0.09	-0.29	-0.29	-0.59	-0.99				
PM	-0.06	-0.06	-0.06	-0.08	-0.1		PM	-0.09	-0.09
¹ Light Duty Vehicle									
² Light Duty Truck									
³ Loaded Vehicle Weight									
⁴ Test Weight									

As illustrated in the table, the Tier II NOx standards have a benefit over the LEV standards ranging from 0.09 grams/mile to 0.99 grams/mile. The 2004 heavy-duty engine standards have a NMHC + NOx benefit of 1.4 grams/bhp-hr. These benefits are on a per vehicle basis. Since all of the Tier II and 2004 heavy-duty engine standards are equivalent or more stringent than the Clean Fuel Fleet standards, the emission reductions from these federal standards surpassed the emission reductions from Georgia Clean Fueled Fleets rules in 2004, when the federal standards were implemented.

EPA has also recognized that the Tier II vehicle and 2004 heavy-duty engine standards are equivalent or more stringent than the clean fueled vehicle (LEV) standards since 2004. A memo dated July 2, 2004 from EPA, Leila Cook, Group Manager in the Office of Air & Radiation, states:

“EPA has since published new emission standards that are more stringent than the CFFP standards for heavy-duty diesel and heavy-duty gasoline engines, as well as light duty vehicles. Therefore, vehicles certified to these new standards are considered acceptable for meeting the requirements contained in Part 88 for the Clean Fuel Fleets Program.

Fleet managers seeking to meet the requirements of the CFFP should be assured that all vehicles manufactured to meet the Tier 2 emission standards are equivalent to or cleaner than earlier emission levels mandated by the CFFP. Therefore, these new Tier 2 vehicles are acceptable for use in meeting the CFFP requirements.”

Furthermore, EPA issued a letter to manufacturers on the Clean-Fuel Vehicle Standards on July 21, 2005. This letter states:

“To determine equivalency, current certification emission standards for Tier 2 vehicles (LDVs, LDTs, and MDPVs), heavy-duty vehicles, heavy duty Otto cycle engines, and heavy-duty diesel engines were compared to CFV vehicle and engine emission standards using the methodology outlined in the Attachment. The results of this analysis are summarized as follows:

Tier 2 LDVs, LDT1-4s, and MDPVs certified to the following Tier 2 bin standards are equivalent to or more stringent than CFV LEV emission standards:

- LDV Bins 1-7 and Bin 9
- LDT1 Bins 1-7 and Bin 9
- LDT2 Bins 1-9
- LDT3 Bin 1-10
- LDT4 Bin 1-10
- MDPV Bin 1-114”

⁴There are no CFV emission standards that correspond to the Tier 2 MDPV class but MDPVs meeting Tier 2 Bins 1-1 1 are all equal to or more stringent than LDT4 CFV LEV standards.

The July 21, 2005 letter further states:

“The following determinations are made for 2005 and later model year heavy-duty Otto cycle engines and diesel engines: Current emission standards for heavy-duty engine Otto cycle engines and diesel engines are more stringent than CFV LEV heavy-duty Otto cycle engines, or heavy-duty diesel engine emission standards.”

Note: The previously listed Table 1 uses the Tier II emission standards phased in for model year 2009 and later. As a result, Bins 8, 9, and 10 have been phased out.

EPA sent a memo dated April 17, 2006 to Air Program Managers on the Clean Fuel Fleet Program Requirements. The purpose of this memo was to provide information sent to manufacturers on determining equivalency between vehicle and engine standards in CFR Part 86 (Tier II & new HD engines) and Part 88 (clean fueled vehicles). Below is a quote from the memo:

“To meet the requirements of the Clean Fuel Fleet Program fleet managers can be assured that vehicles and engines certified to current Part 86 emission standards, which EPA has determined to be as or more stringent than corresponding CFV emission standards per the attached EPA Dear Manufacturer Letter meet CFV emission standards and CFFP requirements as defined in CFR Part 88. Such vehicles do not require a separate CFF certification or CFF label to qualify to participate in the CFF program. Thus, such vehicles are CFF compliant and are available to satisfy CFF SIP obligations.”

In summary, the Tier II vehicle standards and the 2004 heavy-duty diesel engine standards are clearly equivalent or more stringent than the low emission (clean fuel) vehicle standards. The emission standards taken from 40 CFR Part 86 in Table 1 illustrate that the Tier II and 2004 heavy-duty engine standards provide significant emission benefits over the low emission vehicle standard. These three EPA memos have been included in this submittal as Appendix B, and further clarify that EPA agrees that the Tier II and 2004 heavy-duty engine standards are more

stringent. As a result the existing EPA light duty and heavy duty emission standards can easily replace the requirements and benefits of the Clean Fueled Fleets Rule.

Conclusion

The Georgia Environmental Protection Division (EPD) is submitting for approval and incorporation, this proposed revision to Georgia's State Implementation Plan (SIP), a request to remove its Clean Fueled Fleet Rules, Chapter 391-1-22, of the Georgia Rules to its contingency measures, in a manner consistent with the requirements of 110(l) and EPA's proposed anti-backsliding provisions.

Section 110(l) of the CAA, governs EPA's ability to approve all SIP revisions. Specifically, section 110(l) states:

Each revision to an implementation plan submitted by a State under this chapter shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171 of this title), or any other applicable requirement of this chapter.

As shown in the equivalency demonstration, given that the Tier II vehicle standards and the 2004 heavy-duty diesel engine standards are clearly more equivalent or more stringent than the low emission (clean fuel) vehicle standards, the removal of CFFP will not interfere with attainment or reasonable further progress, or any other applicable requirement of the act, EPD can assert that by moving this measure to contingency, this action is consistent with the requirements of 110(l) of the act as well as EPA's proposed anti-backsliding provisions.

Since the federal Tier II and 2004 heavy-duty diesel engine standards were more stringent than the CFFP standards as soon as the federal standards were implemented and since covered fleet owners were required to comply with both the CFFP and the federal standards, there was no, nor will there ever be, a shortfall in emissions reductions as a result of revocation of Georgia's Clean Fueled Fleet Rules in 2014. Therefore, no substitute measure is required for the revocation of Georgia's Clean Fueled Fleets rules.