U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

Alternative Compliance Annual Reporting

December 2019

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Introduction

This U.S. Department of Energy (DOE) guidance is for fleets covered under the Alternative Fuel Transportation Program (10 C.F.R. Part 490) that filed an Intent to Apply for a Waiver (Intent) and thereby signaled their interest in Alternative Compliance (AC). This document sets forth some of the key aspects of AC annual reporting that fleets and their points of contact should consider, both as they prepare the fleet's waiver application for the coming model year and as they gather information for the annual report that will be due after the close of the model year. The document is intended to help fleets understand the specific types of data they need to gather during the model year to report and demonstrate compliance under AC accurately.

In addition, DOE has developed an electronic spreadsheet template that facilitates fleets' preparation of a complete annual report. All fleets that participate in AC are encouraged to use the template.

1. Initial Steps Under Alternative Compliance

Covered fleets that filed an *Intent* by March 31 have until July 31 to submit an AC waiver application. If a fleet that filed an *Intent* by March 31 instead wants to stay in Standard Compliance (SC), it will automatically remain in SC simply by not submitting an AC waiver application.

1.1 Key Aspects of Annual Reports

1. **Timing –** Annual reports under AC are due no later than December 31 following the close of the model year. For example, MY 2019 AC annual reports are due no later than December 31, 2019.

2. **Letterhead –** Cover letters for AC annual reports must be on official state or company letterhead and signed by a responsible agency or company official.

3. **Content –** Among other things, a fleet's AC annual report must indicate the total amount of petroleum fuel use (in gasoline gallon equivalents (GGE)) the fleet reduced in the waiver year. Importantly, the annual report ***must*** include supporting documentation and the supporting calculations that substantiate the fleet's strategy-specific petroleum-reduction figures. Failure to include supporting documentation or other appropriate detail substantiating the strategy-specific petroleum reductions will mean DOE cannot include those GGE amounts in its calculation of the fleet's total petroleum reduction for the waiver year. That total petroleum reduction is what determines whether the fleet met the petroleum-reduction requirement set forth in its AC waiver.

1.2 Supporting Documentation

This section specifies the documentation that fleets need to submit and offers examples of petroleum-reduction calculations for the most common petroleum-reduction strategies available under AC. Note that petroleum reductions must be reported in GGE. Therefore, fleets must know the unit of measurement used (e.g., in the fleet's pumping records) so they can calculate and document the proper conversion of values to GGE. Conversion factors used in the AC program are set forth in Appendix D of the *Alternative Compliance Guidance* (epact.energy.gov/pdfs/alt_compliance_guide.pdf).

Use of Alternative Fuel in a Fleet's On-Road Vehicles

If a fleet used alternative fuel (e.g., E85 or compressed natural gas (CNG)) in its on-road vehicles (light-, medium-, and/or heavy-duty motor vehicles), its AC annual report ***must*** include pumping or other records or documentation showing the precise quantity of E85 or CNG used in those vehicles and the relevant unit(s) of measurement. See page 10 of the *Alternative Compliance Guidance* linked above. Note that purchase invoices/receipts on their own are not sufficient because such invoices/receipts reflect how much alternative fuel the fleet purchased rather than the quantity of alternative fuel the fleet *used*.

> ***Example calculation –*** If a fleet used 26,392 gallons of E85 in its light- and medium-duty flexible fuel vehicles, its annual report should reflect the following petroleum-reduction calculation:
>
> 26,392 gallons of E85 x 0.734 GGE/gallon = 19,372 GGE

> ***Example calculation –*** If a fleet used 58,526 ccf (i.e., hundred cubic feet) of CNG in its CNG vehicles, its annual report should reflect the following petroleum-reduction calculation:
>
> 58,526 ccf of CNG x 0.877 GGE/ccf = 51,327 GGE

Example calculation – If a fleet used 12,688 gallons of CNG in its CNG vehicles, it must make sure to specify the pressure level of those CNG gallons. Assuming a pressure level of 3000 pounds per square inch (psi), the annual report should reflect the following petroleum- reduction calculation:

12,688 gallons of CNG @ 3000 psi x 0.239 GGE/gallon = 3,032 GGE

NOTE: For calculations involving CNG gallons, the calculation results will depend on the application of the appropriate conversion factor, which is related to the psi of the fuel. See Appendix D of the *Alternative Compliance Guidance* linked above for the applicable conversion factors.

Use of Biodiesel Blend(s) in a Fleet's On-Road Vehicles

If a fleet used a biodiesel blend(s) (e.g., B5 and/or B20) in its on-road vehicles (light-, medium-, and/or heavy-duty motor vehicles), its AC annual report ***must*** include pumping or other records or documentation showing the precise quantity of the biodiesel blend(s) used in those vehicles. Purchase invoices/receipts (from the fleet's biodiesel supplier(s)) alone are insufficient, and fleets should avoid including with their annual report a spreadsheet that merely shows a month-by-month breakdown of the total quantity of biodiesel used in the waiver year; a spreadsheet demonstrating a nexus or direct correlation between the total biodiesel quantities and the fleet's on-road diesel vehicles, however, would be satisfactory. Note that the biodiesel used in non-road vehicles and equipment (e.g., generators) may not count and therefore fleets must subtract this information from the fleet's total biodiesel gallons used.

Example calculation – A fleet that used 364,689 gallons of B20 and 1,064,326 gallons of B5 during the model year in its medium- and heavy-duty on-road diesel vehicles should show the following petroleum-reduction calculation in its annual report:

364,689 gallons of B20 x 0.20 = 72,937.8 gallons of B100

1,064,326 gallons of B5 x 0.05 = 53,216.3 gallons of B100

72,937.8 + 53,216.3 = 126,154.1 gallons of B100

126,154 gallons of B100 x 1.066 GGE/gallon B100 = 134,480 GGE

Fuel Economy Improvement

If a fleet replaces vehicles with improved fuel economy vehicles (e.g., hybrid electric vehicles (HEVs) or other fuel efficient non-HEVs), its AC annual report ***must*** detail precisely how the fleet calculated the petroleum reduction (in GGE). See pages 23—25 of the *Alternative Compliance Guidance* linked above. The annual report must indicate, for example, the fuel economy of the old vehicles as well as the fuel economy of the replacement HEVs/improved fuel economy vehicles and the vehicle miles traveled by each. Fleets should tabulate—and detail in the annual report—***separate*** calculations for each replaced vehicle make and model. The results of the separate calculations should then be aggregated to determine the overall savings stemming from the HEV/fuel economy improvement strategy. The AC reporting spreadsheet template DOE developed is formatted to make these calculations easier and should be used for reporting.

Example calculation (for gasoline vehicles; fuel GGE conversion factor (GCF) = 1)

	Vehicle Miles Traveled (VMT)	MPG	GGE
Old Vehicle 1	1,100	10	1,100/10 = 110
Old Vehicle 2	1,000	12	1,000/12 = 83.3
Old Vehicle 3	900	15	900/15 = 60
Old Vehicle 4	2,200	16	2,200/16 = 137.5
Old Vehicle 5	1,800	20	1,800/20 = 90
			Total = 480.80

	Vehicle Miles Traveled (VMT)	MPG	GGE
New Vehicle 1	1,100	18	1,100/108= 61
New Vehicle 2	1,000	21	1,000/21 = 47.6
New Vehicle 3	900	26	900/26 = 34.6
New Vehicle 4	2,200	26	2,200/26 = 84.6
New Vehicle 5	1,800	30	1,800/30 = 60
			Total = 288
			Petroleum Reduction = 480.80 – 288 = 193 GGE

Note that this is the same calculation presented in Appendix E of the *Alternative Compliance Guidance* linked above, broken out here for clarity. For example, for vehicle 1, the equation from the guidance is *GGE Reduced = (Num vehicles)*(Avg VMT)*(GCF)*(1/*FE_{conv} *– 1/*FE_{HEV}*)*, which becomes GGE Reduced = 1 vehicle*1,100 miles/year*1*(1/10 – 1/18), which becomes 1,100*0.044 = 48.4, or 110 – 61 from the table above.[1]

More Information

If you have questions about this guidance, contact the Alternative Fuel Transportation Program at epact.sfp.fleets@nrel.gov or 202-586-9171.

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For more information, visit:
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