

(b) The average fuel economy of all nonpassenger automobiles that are manufactured by a manufacturer and are subject to §533.5(b) or to §533.5(c) shall be determined in accordance with procedures established by the Administrator of the Environmental Protection Agency under section 503(a)(2) of the Act.

APPENDIX A TO PART 533—EXAMPLE OF CALCULATING COMPLIANCE UNDER § 533.5 PARAGRAPH (g)

Assume a hypothetical manufacturer (Manufacturer X) produces a fleet of light trucks in MY 2012 as follows:

APPENDIX A, TABLE 1

[42 FR 13807, Mar. 14, 1977, as amended at 43 FR 12013, Mar. 23, 1978]

Model type				Description	Actual measured fuel economy (mpg)	Volume
Group	Carline name	Basic engine (L)	Transmission class			
1	Pickup A 2WD	4	A5	Reg cab, MB	27.1	800
2	Pickup B 2WD	4	M5	Reg cab, MB	27.6	200
3	Pickup C 2WD	4.5	A5	Reg cab, LB	23.9	300
4	Pickup C 2WD	4	M5	Ext cab, MB	23.7	400
5	Pickup C 4WD	4.5	A5	Crew cab, SB	23.5	400
6	Pickup D 2WD	4.5	A6	Crew cab, SB	23.6	400
7	Pickup E 2WD	5	A6	Ext cab, LB	22.7	500
8	Pickup E 2WD	5	A6	Crew cab, MB	22.5	500
9	Pickup F 2WD	4.5	A5	Reg cab, LB	22.5	1,600
10	Pickup F 4WD	4.5	A5	Ext cab, MB	22.3	800
11	Pickup F 4WD	4.5	A5	Crew cab, SB	22.2	800
Total						6,700

NOTE TO APPENDIX A, TABLE 1. Manufacturer X's required corporate average fuel economy level under §533.5(i) would first be calculated by determining the fuel economy targets applicable to each unique model type and footprint combination for model type groups (1-11) illustrated in Appendix A, Table 2:

APPENDIX A, TABLE 2

Manufacturer X calculates a fuel economy target standard value for each unique model type and footprint combination.

Group	Model type			Description	Base tire size	Wheel-base (inches)	Track width F&R average (inches)	Footprint (ft ²)	Volume	Fuel economy target standard (mpg)
	Catline name	Basic engine (L)	Transmission class							
1	Pickup A 2WD	4	A5	Reg cab, MB	235/75R15	100.0	68.8	47.8	800	27.30
2a	Pickup B 2WD	4	M5	Reg cab, MB	235/75R15	100.0	68.2	47.4	100	27.44
2b	Pickup B 2WD	4	M5	Reg cab, MB	235/70R16	100.0	68.4	47.5	100	27.40
3	Pickup C 2WD	4.5	A5	Reg cab, LB	255/70R17	125.0	68.8	59.7	300	23.79
4	Pickup C 2WD	4	M5	Ext cab, MB	255/70R17	125.0	68.8	59.7	400	23.79
5	Pickup C 4WD	4.5	A5	Crew cab, SB	275/70R17	150.0	69.0	71.9	400	22.27
6a	Pickup D 2WD	4.5	A6	Crew cab, SB	255/70R17	125.0	68.8	59.7	200	23.79
6b	Pickup D 2WD	4.5	A6	Crew cab, SB	285/70R17	125.0	69.2	60.1	200	23.68
7	Pickup E 2WD	5	A6	Ext cab, LB	255/70R17	125.0	68.8	59.7	500	23.79
8	Pickup E 2WD	5	A6	Crew cab, MB	285/70R17	125.0	69.2	60.1	500	23.68
9	Pickup F 2WD	4.5	A5	Reg cab, LB	255/70R17	125.0	68.9	59.8	1,600	23.76
10	Pickup F 4WD	4.5	A5	Ext cab, MB	275/70R17	150.0	69.0	71.9	800	22.27
11	Pickup F 4WD	4.5	A5	Crew cab, SB	285/70R17	150.0	69.2	72.1	800	22.27
Total										6,700

NOTE TO APPENDIX A, TABLE 2. With the appropriate fuel economy targets determined for each unique model type and footprint combination, Manufacturer X's required fuel economy target standard would be calculated as illustrated in Appendix A, Figure 1.

Appendix A, Figure 1

Calculation of Manufacturer X's target fuel economy standard value.

$$\begin{aligned}
 & \text{(Manufacturer's Light Truck Production for Applicable Model Year) / ((Group 1 Volume} \\
 & \text{/ Group 1 Target) + ((Group 2a Volume / Group 2a Target) + ... + (Group 11 Volume /} \\
 & \text{Group 11 Target)) =} \\
 & 6700 / (800/27.30 + 100/27.44 + 100/27.40 + 300/23.79 + 400/23.79 + 400/22.27 + \\
 & 200/23.79 + 200/23.68 + 500/23.79 + 500/23.68 + 1600/23.76 + 800/22.27 + 800/22.27) \\
 & = 23.7
 \end{aligned}$$

Manufacturer's Light Truck Production for Applicable Model Year												
Group1	Group2a	Group2b	Group3	...	Group9	Group10	Group11					
Volume	Volume	Volume	Volume	...	Volume	Volume	Volume	Volume	Volume	Volume	Volume	
Group1	Group2a	Group2b	Group3	...	Group9	Group10	Group11	Group1	Group2a	Group2b	Group11	
Target	Target	Target	Target	...	Target	Target	Target	Target	Target	Target	Target	
6,700												
800	100	100	300	400	400	200	200	500	500	1600	800	800
26.99	27.13	27.08	23.54	23.54	22.06	23.54	23.45	23.54	23.45	23.52	22.06	22.06

Fleet's target fuel economy standard = 23.7 mpg

Appendix A, Figure 2

Calculation of Manufacturer X’s actual fuel economy value.

$$\begin{aligned}
 & \text{(Manufacturer’s Light Truck Production for Applicable Model Year) / ((Group 1 Volume} \\
 & \text{/ Group 1 Fuel Economy) + ((Group 2 Volume / Group 2 Fuel Economy) + ... + (Group} \\
 & \text{11 Volume / Group 11 Fuel Economy)) =} \\
 & 6700 / (800/27.1 + 200/27.6 + 300/23.9 + 400/23.7 + 400/23.5 + 400/23.6 + 500/22.7 + \\
 & 500/22.5 + 1600/22.5 + 800/22.3 + 800/22.2) = 23.3
 \end{aligned}$$

Manufacturer's Light Truck Production for Applicable Model Year										
Group1	Group2	Group3	Group4	Group5	Group6	Group7	Group8	Group9	Group10	Group11
Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Group1	Group2	Group3	Group4	Group5	Group6	Group7	Group8	Group9	Group10	Group11
FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon	FuelEcon
6,700										
800	200	300	400	400	400	500	500	1600	800	800
27.1	27.6	23.9	23.7	23.5	23.6	22.7	22.5	22.5	22.3	22.2

Fleet’s actual fuel economy value = 23.3 mpg

NOTE TO APPENDIX A, FIGURE 2. Since the actual average fuel economy of Manufacturer X’s fleet is 23.3 mpg, as compared to its required fuel economy level of 23.5 mpg,

Manufacturer X did not comply with the CAFE standard for MY 2012 as set forth in section 533.5(i).

Appendix A Figure 3

Manufacturer's Light Truck Production for Applicable Model Year												
Model A Volume Model A Fuel Econ.	+	Model B Volume Model B Fuel Econ.	+	Model C Volume Model C Fuel Econ.	+	Model D Volume Model D Fuel Econ.	+	Model E Volume Model E Fuel Econ.	+	Model F Volume Model F Fuel Econ.		
9,500												
=												
		<u>1,000</u>	+	<u>1,500</u>	+	<u>1,000</u>	+	<u>2,000</u>	+	<u>3,000</u>	+	<u>1,000</u>
		27.0		25.6		25.4		22.1		22.4		20.2
=	23.2 mpg											

NOTE TO APPENDIX A FIGURE 3. Since the actual average fuel economy of Manufacturer X's fleet is 23.2 mpg, as compared to its required fuel economy level of 23.1 mpg, Manufacturer X complies with the Reformed CAFE standard for MY 2008 as set forth in § 533.7(g).

[71 FR 17677, Apr. 6, 2006; 71 FR 19451, Apr. 14, 2006, as amended at 75 FR 25724, May 7, 2010]

PART 534—RIGHTS AND RESPONSIBILITIES OF MANUFACTURERS IN THE CONTEXT OF CHANGES IN CORPORATE RELATIONSHIPS

- Sec.
- 534.1 Scope.
- 534.2 Applicability.
- 534.3 Definitions.
- 534.4 Successors and predecessors.
- 534.5 Manufacturers within control relationships.
- 534.6 Reporting corporate transactions.
- 535.7 Situations not directly addressed by this part.

AUTHORITY: 49 U.S.C. 32901; delegation of authority at 49 CFR 1.50.

SOURCE: 69 FR 77671, Dec. 28, 2004, unless otherwise noted.

§ 534.1 Scope.

This part defines the rights and responsibilities of manufacturers in the context of changes in corporate relationships for purposes of the automotive fuel economy program established by 49 U.S.C. Chapter 329.

§ 534.2 Applicability.

This part applies to manufacturers of passenger automobiles and non-passenger automobiles.

§ 534.3 Definitions.

(a) *Statutory definitions and terms.* All terms used in 49 U.S.C. Chapter 329 are used according to their statutory meaning.

(b) As used in this part—
 “Control relationship” means the relationship that exists between manufacturers that control, are controlled by, or are under common control with, one or more other manufacturers.

“Predecessor” means a manufacturer whose rights have been vested in and whose burdens have been assumed by another manufacturer.

“Successor” means a manufacturer that has become vested with the rights and assumed the burdens of another manufacturer.

§ 534.4 Successors and predecessors.

For purposes of the automotive fuel economy program, “manufacturer” includes “predecessors” and “successors” to the extent specified in paragraphs (a) through (d) of this section.

(a) Successors are responsible for any civil penalties that arise out of fuel economy shortfalls incurred and not satisfied by predecessors.

(b) If one manufacturer has become the successor of another manufacturer during a model year, all of the vehicles