



REGION 9

SAN FRANCISCO, CA 94105

June 3, 2024

VIA ELECTRONIC MAIL

Michael J. Steel
Attorney on behalf of Union Pacific Railroad Co.
Law Offices of Michael Steel
mjslaw@outlook.com

Re: Finding of Violation Under the Clean Air Act

Dear Michael J. Steel:

The U.S. Environmental Protection Agency ("EPA") is issuing the enclosed Finding of Violation ("FOV") to Union Pacific Railroad Co. ("UP" or "you") for violating Section 213 of the Clean Air Act ("CAA"), 42 U.S.C. § 7547, and regulations promulgated pursuant to Section 213(a)(5) of the CAA, 42 U.S.C. § 7547(a)(5), that are codified at 40 C.F.R. Part 1033 (Control of Emissions from Locomotives), and 40 C.F.R. Part 1068 (General Compliance Provisions for Engine Programs). As summarized in the attached FOV, the EPA has determined that UP has failed to comply with the aforementioned provisions by failing to ensure certain emission-related maintenance was performed.

We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, efforts you have taken to comply, and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the FOV prior to the conference date. Please plan for UP's technical and management personnel to attend the conference to discuss compliance measures and commitments.

The EPA contact in this matter is Andrew Chew. You may call him at (415) 947-4197 or email him at chew.andrew@epa.gov to request a conference. Please direct any legal questions to Nathaniel Moore at (415) 972-3899 or moore.nathaniel@epa.gov. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

AMY MILLER-
BOWEN

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BOWEN
Date: 2024.06.03 13:08:00 -07'00'

Amy C. Miller-Bowen, Director
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 9

Enclosures

cc: Rami Hanash
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 9

IN THE MATTER OF:

Union Pacific Railroad Co.
Omaha, Nebraska

Proceedings Pursuant to the Clean Air Act,
42 U.S.C. §§ 7401 et seq.

FINDING OF VIOLATION

The U.S. Environmental Protection Agency ("EPA") is issuing this Finding of Violation to Union Pacific Railroad Co. ("UP") for violating Section 213 of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7547, and regulations promulgated pursuant to Section 213(a)(5) of the CAA, 42 U.S.C. § 7547(a)(5), which are codified at 40 C.F.R. Part 1033 (Control of Emissions from Locomotives), and 40 C.F.R. Part 1068 (General Compliance Provisions for Engine Programs).

Statutory and Regulatory Authority

1. Title II of the CAA, 42 U.S.C. §§ 7521–7554, was enacted to reduce air pollution from mobile sources. In enacting the CAA, Congress found, in part, that "the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare . . ." Section 101(a)(2) of the CAA, 42 U.S.C. § 7401(a)(2). Congress's purpose in enacting the CAA included "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population," and "to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution." See Section 101(b)(1)–(2) of the CAA, 42 U.S.C. § 7401(b)(1)–(2).
2. Section 213(a)(5) of the CAA, 42 U.S.C. § 7547(a)(5), requires the EPA to do the following:

[P]romulgate regulations containing standards applicable to emissions from new locomotives and new engines used in locomotives. Such standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the locomotives or engines to which such standards apply, giving appropriate consideration to the cost of applying

such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology.

3. Section 213(d) of the CAA, 42 U.S.C. § 7547(d), provides that the emission standards for locomotives and locomotive engines shall be enforced in the same manner as enforcement of emission standards for new motor vehicles or new motor vehicle engines. The Administrator of the EPA shall revise or promulgate regulations as may be necessary to determine compliance with, and enforce, the standards in effect under Section 213 of the CAA. *Id.*
4. On April 16, 1998, the EPA promulgated emission standards and associated regulatory requirements for the control of emissions from locomotives and locomotive engines. *See* 40 C.F.R. Part 92. 63 FED. REG. 18998.
5. On June 30, 2008, the EPA promulgated revised emission standards and regulatory requirements for locomotives and locomotive engines. *See* 40 C.F.R. Part 1033. 73 FED. REG. 37197.
6. On June 29, 2021, the EPA migrated the regulatory requirements from 40 C.F.R. Part 92 to 40 C.F.R. Part 1033, with additional testing and compliance provisions in 40 C.F.R. Parts 1065 and 1068. The Tier 0, Tier 1, and Tier 2 emission standards originally adopted in Part 92 are now identified in 40 C.F.R. Part 1033, Appendix I.
7. Section 302(e) of the CAA, 42 U.S.C. § 7602(e), defines “person” as “an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.”
8. 40 C.F.R. § 1033.601 states that locomotive manufacturers/remanufacturers, as well as owners and operators of locomotives subject to the requirements of 40 C.F.R. Part 1033, and all other persons, must observe the provisions of Part 1033, the requirements and prohibitions of 40 C.F.R. Part 1068, and the provisions of the CAA. The provisions of Part 1068 apply to locomotives as specified in that Part, with certain exceptions not applicable here. *Id.* *See also* 40 C.F.R. § 1033.15(b) (“the requirements and prohibitions of [Part 1068] apply to everyone, including anyone who manufactures, remanufactures, imports, maintains, owns, operates any of the locomotives subject to [Part 1033]”).
9. 40 C.F.R. § 1033.1(a) states that specified emission standards begin to apply each time a

locomotive or locomotive engine is originally manufactured or otherwise becomes new (defined in § 1033.901). Further, the requirements of Part 1033 continue to apply as specified after locomotives cease to be new. *Id.*

10. 40 C.F.R. § 1033.101 and Part 1033 Appendix A specify the nitrogen oxides, particulate matter, hydrocarbon, carbon monoxide, and smoke emission standards that apply to new locomotives during the useful life of the locomotive.
11. 40 C.F.R. § 1033.801 states that the requirements of the Subpart I are applicable to “railroads and all other owners and operators of locomotives subject to the provisions of [Part 1033], except as otherwise specified. The prohibitions related to maintenance in § 1033.815 also applies to anyone performing maintenance on a locomotive subject to the provisions of [Part 1033].”
12. 40 C.F.R. § 1033.901 defines “Railroad” as “a commercial entity that operates locomotives to transport passengers or freight.”
13. 40 C.F.R. § 1033.125 states that the owner of each new locomotive shall be provided written instructions for properly maintaining and using the locomotive, including the emission-control system. Such instructions are required to contain a notification that owners and operators must comply with the requirements of Subpart I of Part 1033.
14. 40 C.F.R. § 1033.815(a) states the following:

All owners of locomotives subject to the provisions of this part must ensure that all emission-related maintenance is performed on the locomotives, as specified in the maintenance instructions provided by the certifying manufacturer/ remanufacturer in compliance with § 1033.125 (or maintenance that is equivalent to the maintenance specified by the certifying manufacturer/remanufacturer in terms of maintaining emissions performance).
15. 40 C.F.R. § 1033.815(d) states that the owner of a locomotive must keep records of all maintenance and repairs that could reasonably affect the emission performance of any locomotive subject to Part 1033, and it must keep these records for eight years.
16. 40 C.F.R. § 1033.815(e) states that owners or operators must use good engineering judgment when performing maintenance of locomotives subject to the provisions of this part. You must perform all maintenance and repair such that you have a reasonable technical basis for believing the locomotive will continue (after the maintenance or

repair) to meet the applicable emission standards and family emission limits to which it was certified.

17. 40 C.F.R. § 1033.815(f) states that “[f]ailure to perform required maintenance is a violation of the tampering prohibition in 40 C.F.R. § 1068.101(b)(1). Failure of any person to comply with the recordkeeping requirements of this section is a violation of 40 C.F.R. § 1068.101(a)(2).”

Background

18. UP is a Class I railroad company that owns locomotives operating in the United States. UP’s headquarters is located in Omaha, Nebraska.
19. UP is a “person,” as that term is defined in Section 302(e) of the CAA, 42 U.S.C. § 7602(e).
20. UP is a “railroad,” as that term is defined at 40 C.F.R. § 1033.901.
21. On September 15, 2020, the EPA issued an Information Request (“Information Request”) under Section 208 of the CAA, 42 U.S.C. § 7542, to UP. During an iterative process and after numerous discussions, the EPA supplemented its request on November 15, 2021; January 27, 2022; February 21, 2023; and June 26, 2023.
22. UP provided multiple responses to the EPA’s Information Request and supplemental requests on November 30, 2020; February 10, 2022; March 10, 2022; May 12, 2023; June 6, 2023; and July 31, 2023 (collectively “UP’s Responses”).
23. In UP’s Responses, UP provided maintenance instructions from the certifying manufacturer/remanufacturer of several types of locomotives owned and operated by UP (“Maintenance Instructions”). The Maintenance Instructions contained the following requirements:
- a. FDL Low Emissions Locomotive Special Maintenance Instructions GEK-115206, Rev. D
 - i. Page 7 of 10: 16 Cylinder TIER 1+ EFI (Electronic Fuel Injection) Legacy Series Locomotives Fuel Injector – 10,000 Motoring MWHrs or 3 years whichever comes first (Replace).
 - b. GEVO Low Emissions Locomotives Special Maintenance Instructions GEK-115176, Rev. F
 - i. Page 5 of 9: 12 Cylinder TIER 2+ Locomotives Fuel Injector Nozzle –

15,000 motoring megawatt hours (“MWHrs”) or 42 months whichever comes first. (Replace)

- ii. Page 6 of 9: 12 Cylinder TIER 2+ Locomotive Inlet Metering Valve (single) – 184 Days (Replace).

c. ElectroMotive Maintenance Instruction 1791, Rev. D

- i. Page 6: Every 184 days: Replace fiberglass engine air filters. Use elements equal to original equipment.
- ii. Page 7: Every 3 years or 10,000 MWHrs (whichever event occurs first) - renew injectors; replace with new or remanufactured. (EMM)

24. In UP’s Responses, UP provided spreadsheets containing maintenance information on certain requested locomotives in its fleet (“Spreadsheets”).

25. In the Spreadsheets, UP listed 4 locomotives that did not replace its fuel injectors every 10,000 motoring MWHrs or 3 years, whichever came first, as required by the applicable maintenance instructions referenced in Paragraph 23.a.i for each locomotive subject to an EPA emission tier in UP’s locomotive fleet. The Locomotive Numbers were 5558, 5565, 5598, and 6437.

26. In the Spreadsheets, UP listed 9 locomotives that did not replace its fuel injectors every 15,000 motoring MWHrs or 42 months, whichever came first, as required by the applicable maintenance instructions referenced in Paragraph 23.b.i for each locomotive subject to an EPA emission tier in UP’s locomotive fleet. The Locomotive Numbers were 5308, 5343, 5390, 7695, 7778, 5259, 5543, 5546, and 5553.

27. In the Spreadsheets, UP listed 35 locomotives that did not replace its inlet metering valve every 184 days, as required by the applicable maintenance instructions referenced in Paragraph 23.b.ii for each locomotive subject to an EPA emission tier in UP’s locomotive fleet. The Locomotive Numbers were 5308, 5343, 5390, 5408, 5447, 7608, 7623, 7642, 7648, 7651, 7654, 7658, 7669, 7670, 7681, 7682, 7688, 7690, 7695, 7728, 7738, 7745, 7773, 7778, 5252, 5254, 5257, 5259, 5527, 5539, 5542, 5543, 5546, 5550, and 5553.

28. In the Spreadsheets, UP listed 7 locomotives that did not replace its engine air filters within 184 days, as required by the applicable maintenance instructions referenced in Paragraph 23.c.i for each locomotive subject to an EPA emission tier in UP’s locomotive fleet. The Locomotive Numbers were 3818, 3822, 3848, 3850, 3855, 3870, and 5220.

29. In the Spreadsheets, UP listed 4 locomotives that did not replace or renew its fuel injectors every 3 years or 10,000 MWHrs, whichever came first, as required by the applicable maintenance instructions referenced in Paragraph 23.c.ii for each locomotive subject to an EPA emission tier in UP's locomotive fleet. The Locomotive Numbers were 3818, 3855, 3870, and 5220.

Violations

30. By failing to replace the fuel injectors as specified in the maintenance instructions provided by the certifying remanufacturer on each locomotive as referenced in Paragraph 25 above, UP failed to ensure "all emission-related maintenance" was performed in accordance with 40 C.F.R. §§ 1033.815(a) and 1068.101(b).
31. By failing to replace the fuel injectors as specified in the maintenance instructions provided by the certifying remanufacturer on each locomotive as referenced in Paragraph 26 above, UP failed to ensure "all emission-related maintenance" was performed in accordance with 40 C.F.R. §§ 1033.815(a) and 1068.101(b).
32. By failing to replace the inlet metering valve as specified in the maintenance instructions provided by the certifying remanufacturer on each locomotive as referenced in Paragraph 27 above, UP failed to ensure "all emission-related maintenance" was performed in accordance with 40 C.F.R. §§ 1033.815(a) and 1068.101(b).
33. By failing to replace the engine air filters as specified in the maintenance instructions provided by the certifying remanufacturer on each locomotive as referenced in Paragraph 28 above, UP failed to ensure "all emission-related maintenance" was performed in accordance with 40 C.F.R. §§ 1033.815(a) and 1068.101(b).
34. By failing to replace or renew the fuel injectors as specified in the maintenance instructions provided by the certifying remanufacturer on each locomotive as referenced in Paragraph 29 above, UP failed to ensure "all emission-related maintenance" was performed in accordance with 40 C.F.R. §§ 1033.815(a) and 1068.101(b).

Enforcement Authority

35. Pursuant to Sections 204, 205(b), and 205(c) of the CAA, 42 U.S.C. §§ 7523, 7524(b), and 7524(c), EPA may bring an enforcement action for these violations under its administrative authority or by referring this matter to the United States Department of

Justice, to commence a civil action in federal district court for violations of Title II to obtain injunctive relief and civil penalties of up to \$57,617 for each violation that occurred after November 2, 2015, where penalties are assessed on or after December 27, 2023.¹

36. Subsections (b) and (c)(2) of Section 205 of the Act, 42 U.S.C. § 7524(b), (c)(2), provide the factors that should be taken into account when determining the amount of any civil penalty under Title II of the Act:

In determining the amount of any civil penalty to be assessed under this subsection, the court [or the EPA] shall take into account the gravity of the violation, the economic benefit or savings (if any) resulting from the violation, the size of the violator's business, the violator's history of compliance with [Title II of the Act], action taken to remedy the violation, the effect of the penalty on the violator's ability to continue in business, and such other matters as justice may require.

Environmental Impact of Violations

37. These violations may result in excess emissions of particulate matter, nitrogen oxides, hydrocarbons, and other air pollutants that contribute to increased ground level ozone concentrations. Particulate matter, especially fine particulates containing microscopic solids or liquid droplets, can get deep into the lungs and cause serious health problems, including decreased lung function; chronic bronchitis; and aggravated asthma. Additionally, current scientific evidence links short-term nitrogen oxides exposure, ranging from 30 minutes to 24 hours, with adverse respiratory effects including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Exposure to ground-level ozone can also reduce lung function and inflame lung tissue; repeated exposure may permanently scar tissue.

**AMY MILLER-
BOWEN**

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Amy C. Miller-Bowen, Director
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 9

¹ See 40 C.F.R. § 19.4: Statutory civil monetary penalties, as adjusted for inflation, and tables. This civil penalty level has been adjusted over time as required by the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. § 2461 note; Pub. L. 101-410), as amended. 88 Fed. Reg. 89309, at 89312.