

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

IN THE MATTER OF:)	NOTICE OF VIOLATION
)	
Zavanna LLC)	EPA Docket No.
1200 17th Street)	
Suite 1100)	
Denver, Colorado 80202)	
)	
)	Proceedings Pursuant to
)	the Clean Air Act,
)	42 U.S.C. §§ 7401-7671q,
)	and North Dakota Code, Title 33, Chapter 15

NOTICE OF VIOLATION

The U.S. Environmental Protection Agency (EPA) alleges that Zavanna LLC (Zavanna) has violated the Clean Air Act (the Act) at oil and natural gas production operations located in the Bakken Basin. Specifically, the EPA alleges Zavanna has violated Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015, 40 C.F.R. part 60, subpart OOOOa (NSPS OOOOa). The EPA also alleges violations of North Dakota Administrative Code 33.1-15-07, promulgated under North Dakota Air Quality Regulations for the Oil & Gas Industry.

I. STATUTORY AND REGULATORY BACKGROUND

1. The Clean Air Act's purpose is "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." 42 U.S.C. § 7401(b)(1).
2. Section 108 of the Act, 42 U.S.C. § 7408, directs the EPA to identify pollutants that "may reasonably be anticipated to endanger public health or welfare" and to issue air quality criteria based on the "latest scientific knowledge" about the effects of the pollutants on public health and the environment. These pollutants are known as "criteria pollutants."
3. Section 109 of the Act, 42 U.S.C. § 7409, requires the EPA to establish national ambient air quality standards (NAAQS) for criteria pollutants. The primary standard must be set at a level "requisite to protect the public health" with an adequate margin of safety, and the secondary standard is intended to protect the "public welfare."

4. Ground-level ozone is one of six criteria pollutants for which the EPA has promulgated national standards, due to its adverse effects on human health and the environment. Short-term exposures (1 to 3 hours) to ground-level ozone can cause acute health effects observed even at low concentrations, including temporary pulmonary inflammation. Long-term exposure (months to years) may cause permanent damage to lung tissue. Children and adults who are active outdoors are particularly susceptible to the adverse effects of exposure to ozone. *See* 73 Fed. Reg. 16,436 (Mar. 27, 2008).
5. Ozone is not emitted directly from sources of air pollution. Ozone is a photochemical oxidant, formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react in the presence of sunlight. NOx and VOCs are known as “ozone precursors.” Sources that emit ozone precursors are regulated to reduce ground-level ozone. *See* 62 Fed. Reg. 38,856 (July 18, 1997).
6. Section 110(a)(2)(C) of the Act requires that every state implementation plan for national primary and secondary ambient air quality standards include a program to regulate the construction and modification of stationary sources; this includes a permitting program as required by parts C and D of Title I of the Act. *See* 42 U.S.C. § 7410(a)(2)(C).
7. Section 111(b) of the Act authorizes the Administrator of the EPA to promulgate standards of performance applicable to “new sources” within categories of sources that cause “air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7411(b).
8. A “stationary source” is a building, structure, facility, or installation that emits or may emit any air pollutant. 42 U.S.C. § 7411(a)(3).
9. In 1979, the EPA listed “Crude Oil and Natural Gas Production” as a source category that contributes significantly to air pollution and for which standards of performance would be established. 44 Fed. Reg. 49,222 (Aug. 21, 1979).
10. It is unlawful for owners and operators of any new source to operate in violation of applicable standards of performance after the standards have gone into effect. 42 U.S.C. § 7411(e).

New Source Performance Standards

11. A “new source” is any stationary source, the construction or modification of which is commenced after the promulgation of the standards of performance that will apply to such source. 42 U.S.C. § 7411(a)(2).

40 C.F.R. Part 60, Subpart OOOOa (NSPS OOOOa)

12. In 2016, the EPA promulgated “Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015” under section 111 of the Clean Air Act. 81 Fed. Reg. 35,824 (June 3, 2016). These standards are set forth in 40 C.F.R part 60, subpart OOOOa, which includes 40 C.F.R. §§ 60.5360a–5432a (NSPS OOOOa).¹
13. Each of these standards is a “standard of performance” within the meaning of section 111(a)(1) of the Clean Air Act, 42 U.S.C. § 7411(a)(1), or a “design, equipment, work practice, or operational standard, or combination thereof” under section 111(h) of the Clean Air Act, 42 U.S.C. § 7411(h).
14. NSPS OOOOa applies to “affected facilities” for which owners or operators commence construction, modification or reconstruction after September 18, 2015. 40 C.F.R. § 60.5365a.
15. A “storage vessel affected facility” under NSPS OOOOa includes a single storage vessel that has the potential for VOC emissions equal to or greater than 6 tpy, as determined according to 40 C.F.R. § 60.5365a(e).
16. “VOCs” is defined as “any organic compound which participates in atmospheric photochemical reactions; or which is measured by a reference method, an equivalent method, an alternative method, or which is determined by procedures specified under any subpart. 40 C.F.R. § 60.2.
17. NSPS OOOOa requires “[a]t all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with

¹ Following promulgation of the 2016 final rule, the EPA granted reconsideration of fugitive emission requirements at well sites and compressor stations, well-site pneumatic pump standards, and the requirements for professional engineer certification of closed vent systems. 82 Fed. Reg. 25,730 (June 5, 2017); 83 Fed. Reg. 52,056 (Oct. 15, 2018). This reconsideration does not affect the allegations in this Notice of Violation.

good air pollution control practice for minimizing emissions.” 40 C.F.R.
§ 60.5370a(b).

18. NSPS OOOOa requires storage vessel affected facilities that utilize a control device to be equipped with a cover that meets the requirements of 40 C.F.R. § 60.5411a(b) and is connected through a closed vent system that meets the requirements of § 60.5411a(c) and (d), and emissions must be routed to a control device that meets the conditions specified in § 60.5412a(c) and (d). 40 C.F.R. § 60.5395a(b)(1).
19. Owners and operators must comply with the following requirements for closed vent systems associated with storage vessel affected facilities under NSPS OOOOa:
 - a. Design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets the requirements specified in § 60.5412a(c) and (d), or to a process. 40 C.F.R. § 60.5411a(c)(1).
 - b. Design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections. 40 C.F.R. § 60.5411a(c)(2).
20. Owners and operators must comply with the following requirements for control devices to reduce emissions from storage vessel affected facilities under NSPS OOOOa:
 - a. Install and operate a continuous burning pilot flame.
40 C.F.R. §§ 60.5412a(d)(1)(ii), 60.5413a(e)(2).
 - b. Operate a flare in accordance with the requirements of § 60.18. 40 C.F.R. §§ 60.5412a(d)(3). Flares shall be operated with a flame present at all times when emissions may be vented to them. 40 C.F.R. §§ 60.18(c)(2), 40 C.F.R. §§ 60.18(e).
 - c. Operate each control device used to comply with NSPS OOOOa at all times when gases, vapors, and fumes are vented from storage vessel affected facilities through the closed vent system to the control device. 40 C.F.R. § 5412a(d)(4).
21. Each control device must be operated following the manufacturer’s written operating instructions, procedures and maintenance schedule to ensure good air

pollution control practices for minimizing emissions. 40 C.F.R. §§ 60.5417a(h)(3)

North Dakota Air Quality Regulations for the Oil & Gas Industry

22. The EPA approved the State of North Dakota's Air Pollution Control Rules in the State Implementation Plan. 78 Fed. Reg. 6,9296 (Nov. 19, 2013). Requirements for oil and gas facilities are set forth in North Dakota Administrative Code (NDAC) 33.1-15-07 for Control of Organic Compounds.

Requirements for Organic Compounds Gas Disposal

23. Under 33.1-15-07-02.1, no person may cause or permit the emission of organic compounds gases and vapors, except from an emergency vapor blowdown system or emergency relief system, unless these gases and vapors are burned by flares, or an equally effective control device as approved by the department. Minor sources, as determined by the department and not subject to New Source Performance Standards (NSPS), may be granted exemptions to this subsection. NDAC 33.1-15-07-02.1.
24. Under 33.1-15-07-02.3, each flare required under this section must be equipped and operated with an automatic igniter or a continuous burning pilot. NDAC 33.1-15-07-02.3.
25. "Emission" means a release of air contaminants into the ambient air. NDAC 33.1-15-01-04.9.
26. "Person" means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, any other state or political subdivision or agency thereof and any legal successor, representative agent, or agency of the foregoing. NDAC 33.1-15-01-04.29.

II. FACTUAL BACKGROUND & FINDINGS OF VIOLATION

Factual Background

27. Zavanna is a privately-held limited liability company formed in the State of Colorado and at all relevant times to this NOV is doing business in the State of North Dakota.
28. Zavanna is a "person" within the meaning of Section 302(e) of the Clean Air Act, 42 U.S.C. § 7602(e), and within the meaning of North Dakota Administrative Code 33.1-15-01-04.29.

29. Zavanna owns and operates the oil and natural gas facilities in Table 1.
30. As a person operating in the State of North Dakota, Zavanna is subject to the Requirements for Organic Compounds Gas Disposal under NDAC 33.1-15-07-02, at the facility listed in Table 1.
31. Oil and water produced from the facility in Table 1 are stored in produced oil and produced water storage tanks. Produced oil and produced water storage tanks are kept at or near atmospheric pressure.
32. When pressurized oil is transferred from higher-pressure separators or heater treaters to lower-pressure atmospheric storage tanks, some of the hydrocarbons in the oil, including VOC and hazardous air pollutants, vaporize in a process known as “flashing.” After flashing occurs, the oil continues to emit vapors due to liquid level changes and temperature fluctuations (commonly known “working,” “standing,” or “breathing” losses).
33. Vapors from storage tanks are captured and controlled through a series of pipes or vent lines, often referred to as a closed vent system or CVS, that route vapors to a combustion device.
34. Zavanna provided the information in Table 1 in registration and other documents to the North Dakota Department of Environmental Quality (NDDEQ).

Table 1

Site Name	Associated NDIC Well Numbers	Site First Production Date	Site Post-Control VOC from Tanks (TPY)
Stranger Pad	35665, 35666, 35667, 35668, 35669, 35670, 35671	11/24/2019	62.36

35. In October 2023, EPA’s contractor, Toeroek Associates, Inc. (Toeroek)/ChampionX Emissions Technologies Group (ChampionX) performed aerial monitoring surveys of oil and gas facility operations in North Dakota. The aerial surveys were conducted using a helicopter operating at approximately 250 feet above ground level and an Optical Gas Imaging (OGI) camera.

36. On October 28, 2023, Toeroek/Champion X observed hydrocarbon emissions from an unlit flare at the Zavanna facility in Table 1.
37. On November 15, 2023, after reviewing the information provided by Toeroek/Champion X, EPA contacted Zavanna representatives to inform them of the unlit flare at the facility in Table 1, which was identified in the aerial survey on October 28, 2023.
38. Based on the first production dates for the site listed in Table 1, information provided by Zavanna to NDDEQ in registration and other documents, and well production data reported by Zavanna to the North Dakota Oil and Gas Division, and NSPS reports submitted by Zavanna to EPA, EPA believes that storage vessels and associated emissions control equipment at the site in Table 1 are subject to requirements for storage vessel affected facilities in the New Source Performance Standards, as shown in Table 2.

Table 2

Site Name	NSPS to which Site is Subject
Stranger Pad	OOOOa

Alleged Violations

NSPS OOOOa

39. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. § 60.5370a(b) to maintain and operate at all times, including periods of startup, shutdown, and malfunction, tank affected facilities and the associated flare air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. § 60.5370a(b).
40. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. § 60.5395a(b)(1) to route emissions from storage vessel affected facilities to a control device that meets the conditions

specified in § 60.5412a(c) and (d), because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. § 60.5395a(b)(1).

41. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. § 60.5411a(c)(1) and (c)(2) to design and operate, with no detectable emissions as determined using olfactory, visual and auditory inspections, a closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets the requirements specified in § 60.5412a(c) and (d) or to a process, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. § 60.5411a(c)(1)-(2).
42. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. §§ 60.5412a(d)(1)(ii) and 60.5413a(e)(2) to install and operate a continuous burning pilot flame in the facility flare, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. §§ 60.5412a(d)(1)(ii), 60.5413a(e)(2).
43. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. §§ 60.18(c)(2) and 40 C.F.R. §§ 60.18(e) to operate its flare in accordance with the requirements of § 60.18. 40 C.F.R. §§ 60.5412a(d)(3), and specifically to operate its flare with a flame present at all times when emissions were vented to it, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. §§ 60.18(c)(2), 40 C.F.R. §§ 60.18(e).
44. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. § 5412a(d)(4) to operate each control device used to comply with NSPS OOOOa at all times when gases, vapors, and fumes are vented from storage vessel affected facilities through the closed vent system to the control device, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. § 5412a(d)(4).
45. Based on aerial survey findings at the NSPS OOOOa-subject facility in Table 2, Zavanna violated requirements under 40 C.F.R. §§ 60.5417a(h)(3) to operate each control device following the manufacturer's written operating instructions,

procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions, because the flare was unlit and venting uncontrolled VOC emissions to the atmosphere. 40 C.F.R. §§ 60.5417a(h)(3).

46. Each of the violations alleged in Paragraphs 50-61 are violations of section 111 of the Clean Air Act, 42 U.S.C. § 7411(e).

North Dakota Air Quality Regulations for the Oil & Gas Industry

47. Based on aerial survey findings at the facility in Table 1, Zavanna violated requirements under NDAC 33.1-15-07-02.1 by causing or permitting the emission of organic compounds gases and vapors which were not burned by flares or an equally effective control device approved by the North Dakota Department of Environmental Quality. NDAC 33.1-15-07-02.1.
48. Based on aerial survey findings at the facility in Table 1, Zavanna violated requirements under 33.1-15-07-02.3 to equip and operate each flare with an automatic igniter or a continuous burning pilot. NDAC 33.1-15-07-02.3.

III. ENFORCEMENT AUTHORITY

49. Section 113(a) of the Act authorizes the Administrator of the EPA, after notification is provided, to issue an order requiring any person who has violated or violates any requirement or prohibition of an applicable State implementation plan or permit to: (a) issue an order requiring such person to comply with the requirements or prohibitions of such plan or permit; (b) issue an administrative order to comply with Section 113(d) of the Act; or (c) bring a civil action in accordance with Section 113(b) of the Act. *See* 42 U.S.C. § 7413(a)(1).
50. Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), provides that whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated, or is in violation of, any requirement or prohibition of the Clean Air Act, the Administrator may issue an order requiring such person comply with the requirements or prohibition of the Act, issue an administrative penalty order in accordance with section 113(d) of the Act, or bring a civil action in accordance with section 113(b) of the Act for injunctive relief or civil penalties.
51. The issuance of this Notice of Violation does not in any way limit or preclude the EPA from pursuing additional enforcement options concerning inspections or review

referenced in this Notice of Violation. Also, this Notice of Violation does not preclude enforcement action for violations not specifically addressed in this Notice of Violation.

Date Issued: ____8/26/2024____

Suzanne J. Bohan, Director
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