U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

901 Locust Street, Suite 480
Kansas City, MO 64106

NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

VIA ELECTRONIC MAIL TO: karl.fails@sunoco.com; gary.koegeboehn@Sunoco.com

October 25, 2024

Mr. Karl Fails, EVP-COO
NuStar Pipeline Operating Partnership, L.P.
8111 Winchester Drive
Dallas, TX 75225

CPF 3-2024-008-NOPV

Dear Mr. Fails:

From February 28, 2022, through June 15, 2023, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code (U.S.C.), investigated a rupture and release of hazardous liquid on NuStar Pipeline Operating Partnership, L.P.'s (NuStar) 10-inch pipeline system in Union County, Arkansas, southeast of El Dorado, Arkansas. The rupture occurred on February 27, 2022, and resulted in the release of a reported 2,278 barrels (bbl.) of anhydrous ammonia (NH3) in a high consequence area (HCA).

The affected 10-inch pipeline segment traverses from NuStar's Chatham pump station (Chatham) near Chatham, Louisiana, to Hampton pump station (Hampton), north of Hampton, Arkansas. On February 27, 2022, the pipeline was transporting NH3 northbound when the pipe ruptured at 3:45 a.m.[1] at Milepost (MP) 52.3 within Bear Creek. Bear Creek flows southward from the release point and flows into a swampy area, crossing under the Hibanks Road bridge approximately two miles from the release point. The pipeline failure occurred within Bear Creek, which caused the NH3 to react with the water to form aqueous ammonia,[2] thus impacting fish and aquatic wildlife. Additionally, 10 homes with an estimated 20 persons affected voluntarily evacuated the area. The pipeline was controlled and monitored remotely by NuStar personnel using a Supervisory Control and Data Acquisition (SCADA) system.

[1] All times are in Central Standard Time.
[2] Aqueous ammonia is also known as ammonium hydroxide.

Upon occurrence of the pipeline rupture, the SCADA system detected pressure and flow deviations in the NuStar control center, triggering a leak alarm at 3:50 a.m., and alerting SCADA controllers to a potential leak between Spearsville Station and Motor-Operated Valve (MOV) 3-3. In addition, pressure logs from SCADA indicated that the discharge pressure at Spearsville Station decreased from 1198 pounds per square inch (psi) at 3:30 a.m. to 836 psi by 4:30 a.m. At 4:49 a.m., the controllers closed the Spearsville Station suction MOV at MP 45.3, south of the leak location. At 4:53 a.m., controllers closed MOV 3-3 at MP 62.2, north of the leak location, thereby isolating the pipeline segment 63 minutes after the initial leak alarm. Field technicians further isolated the pipeline segment by closing manual isolation valves 3-1 and 3-2, located at MP 49.2 and MP 56.2, respectively, by 8:24 a.m.

At 4:59 p.m., following unsuccessful ground and aerial patrols to identify the release location, the Spearsville Station valve was reopened to check for leaks between the Spearsville Station and the downstream Valve 3-1. At 5:20 p.m., with no leak indications between the Spearsville Station and Valve 3-1, field technicians reopened Valve 3-1 to test the pipeline between the Spearsville Station and the subsequent downstream Valve 3-2. The pressure immediately dropped, confirming the leak's location between Valve 3-1 and Valve 3-2. Valve 3-1 was closed at 5:23 p.m. At 5:25 p.m., the aerial patrol pilot identified the leak at Bear Creek, with the size of the NH3 plume increasing due to the opening of Valve 3-1.

NuStar notified the National Response Center (NRC) of the accident at 6:30 p.m. (Report No. 1329850). At 6:40 p.m., notification was made to local emergency responders. A supplemental-final accident report (Accident Report) was submitted to PHMSA via form F 7000-1 on October 10, 2022 (Report # 20220065-37212). The final estimate of property damage due to the accident was $753,176, including $125,000 for environmental remediation.

The failed pipe was removed and sent for metallurgical analysis where the apparent cause of the rupture was determined to be circumferential stress corrosion cracking (SCC) due to bending stress on the pipeline. The rupture originated four to six inches from the nearest girth weld, spanning an area between approximately 8:30 and 11:00 o'clock positions. The cracks did not involve the long seam weld.

As a result of the investigation, it is alleged that NuStar has committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items investigated, and the probable violations are:

1. § 195.52 Immediate notice of certain accidents.

(a) *Notice requirements*. At the earliest practicable moment following discovery, of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in 195.50, but no later than one hour after confirmed discovery, the operator of the system must give notice, in accordance with paragraph (b) of this section of any failure that:

(1) . . . .

(3) Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000;

NuStar failed to give notice of an event described in § 195.50 no later than one hour after confirmed discovery, as required by § 195.52(a). Per § 195.2, "Confirmed Discovery" is defined as a situation where "it can reasonably be determined, based on the information available to the operator at the time of a reportable event, even if only based on a preliminary evaluation."

As stated in the Accident Report's "Narrative Description Of The Accident" (Narrative), NuStar's Control Center "immediately activated emergency procedures" upon detecting the rupture at 3:45 a.m. From the Narrative, and its investigation, PHMSA found that (1) NuStar discovered the accident when its SCADA system detected the rupture in the form of a leak alarm within 5 minutes of the rupture (3:50 a.m.), (2) the moment following the activation of the emergency procedures was the earliest practicable moment for NuStar to have given notice of the accident, and (3) NuStar had confirmed discovery based on preliminary evaluation effectively upon its decisions to close valves to isolate the pipeline segment(s), and not upon its later visual confirmation.

In the 63 minutes between the time of the leak alarm and isolation of the pipeline segment(s), PHMSA's investigation found that the mainline pressure dropped by more than 75 percent (4:53 a.m.). During that time, NuStar was aware of a leak and had reason to expect significant loss of product volume that would endanger the public and the environment. NuStar's Narrative further states that three technicians and a pilot were dispatched to search for a possible leak, followed by maintenance personnel by 11:40 a.m. PHMSA found that these actions in response to the leak demonstrated that NuStar had already obtained sufficient justification from its preliminary evaluation to confirm discovery of an accidental release of significant magnitude. In consideration of NuStar's emergency response actions and relevant reporting procedures, PHMSA found that NuStar's intent was to visually identify the leak prior to reporting. Eventually, NuStar's unorthodox measure to reopen the mainline valves to introduce higher pressure ammonia into the pipeline segment helped operations personnel find the release point in Bear Creek. PHMSA found that NuStar's measure to begin reopening valves at 4:59 p.m. to locate the leak additionally demonstrated that NuStar had already confirmed a leak occurred, based on preliminary evaluation. NuStar's Narrative continues by stating that "[o]perations confirmed the leak at approximately 17:16 [p.m.] on Sunday, Feb. 27th." After *visually* confirming the release location NuStar reported the accident to the NRC (Report No. 1329850) at 6:30 p.m.

Because NuStar waited to give notice while it performed a search to visually locate the leak, NuStar failed to follow the requirements of the regulation to give notice no later than one hour after confirmed discovery. Considering the leak alarm, steady pressure loss, valve closures, and emergency response activation, NuStar's preliminary evaluation was that a serious rupture and large release had occurred, and its actions to mitigate and search for the release constituted "confirmed discovery." NuStar did not have to visually locate the leak to confirm discovery. Thus, PHMSA determined that NuStar confirmed discovery effective 4:53 a.m., and was thereby required to give notice no later than 5:53 a.m. An independent post-accident metallurgical analysis provided by NuStar supports PHMSA's determination. It stated that discovery was made by the control room. The analysis stated as part of the background information, "[b]ased on

information provided by NuStar, a leak was discovered by NuStar's control room on Sunday, [February 27, 2022]."

NuStar should have reasonably expected that the release would result in property damage exceeding $50,000, and reported the event to the NRC well before 6:50 p.m. When determining to report a release event to the NRC, an operator must consider all criteria under § 195.52(a), including an estimate of property damage, as part of its discovery process. NuStar's Narrative closes by stating, "[p]roper internal and external notifications were made;" PHMSA refutes that statement. In review of NuStar's procedures, PHMSA found that they were a causal factor in its failure to give notice. Particularly, PHMSA found that NuStar's procedure entitled "207 Pipeline Safety Accident Reporting" failed to provide NuStar's personnel any guidance as to when, or how, to perform an estimate of property damage resulting from an emergency situation or release. By failing to prescribe any requirements for initially estimating property damage, the procedures supported NuStar's intent to visually confirm the release prior to reporting. Accordingly, NuStar did not initially consider the cost of commodity lost, repairs, and environmental remediation, which are required to be estimated and reported on PHMSA F 7000-1.[3] In review of NuStar's accidents involving NH3 between years 2015 and 2021 with the same reported cause type of "Material/Weld/Equipment Failure," PHMSA found that these accidents averaged more than $95,000 in property damage each, and $61,000 in property damage per barrel released. PHMSA asserts that based on NuStar's experience and previous accident history, had it made the required initial estimate, it would have determined that the release would result in at least $50,000 in property damage.

Therefore, PHMSA concludes that even though NuStar had sufficient reason to do so based on its own emergency response actions, because it followed deficient procedures, NuStar is in violation of the regulation for failing to give notice of the accident to the NRC at the earliest practicable moment following discovery, but no later than one hour after confirmed discovery (*i.e.*, no later than one hour after isolating the pipeline) per the requirement of § 195.52(a)(3).

2. § 195.52 Immediate notice of certain accidents
(a) . . . .
(c) Calculation. A Pipeline operator must have a written procedure to calculate and provide a reasonable initial estimate of the amount of the released product.

NuStar failed to have a procedure to calculate and provide a reasonable initial estimate of the amount of product released from the accident. During its review of the accident, and NuStar's report to the NRC, PHMSA found that NuStar's procedure entitled "209 Initial Estimate of Product Released from a Pipeline Facility" (Procedure 209) failed to provide any methodology for initially estimating a large release of anhydrous ammonia (NH3) that would justify immediate notification to the NRC.

Upon first discovering the release event, NuStar was required to follow the procedure as stated in section 1 of Procedure 209 to provide a calculated initial estimate that "may be required to be

[3] The form and associated instructions are code requirements when giving notice of a release.

reported to the National Response Center (NRC), in accordance with 49 CFR 195.52." However, NuStar's initial estimate was given over 14 hours after the event, was unreasonable, and severely underestimated the amount of the release. NuStar's initial NRC report stated that it estimated that the release was less than one barrel of NH3 (100 lb.) despite its SCADA system and associated emergency response activity indicating a significant release that ultimately resulted in a spill of 2,278 barrels (544,396 lb.).

PHMSA reviewed Procedure 209 section 3.5, which details NuStar's process of calculating a release of NH3 and concluded that Procedure 209 was substantially lacking in detail such that when followed, it did not facilitate any method that would produce a significant release volume that would justify an immediately reportable accident as intended by the regulation. Section 3.5 provided only two methods for calculation of the release volume for ammonia, (1) the form of a "drip leak" and (2) the form of a "stream leak." Each method required visual confirmation because the procedure stipulated that the number of drops per minute, or size of the stream, were to be approximated by Operations personnel either visually or by physically measuring the release rate in gallons per minute. Although NuStar should have made an attempt to approximate the release using an alternate method, and in consultation with Engineering and the Control Center, as specified by Procedure 209 section 3.1.2, NuStar elected to initially report its estimate based on the procedure's reference to the "EPA Reportable Quantity (RQ) of NH3 is 100/lb. per day," given in section 3.5.1 as a factor for consideration in reporting a drip leak. The 100 lb. estimate was not based on a calculation, nor was it provided in barrels or gallons, as intended by the regulations. In review of other methods outlined in the procedure, PHMSA noted that they were not intended for use in estimating a release of highly volatile liquid and were specifically limited to situations where the release could be located and measured, either by metering or by eyesight.

In sum, the procedure prescribed unreasonable limitations on each method of calculation by requiring that Operations personnel acquire particular knowledge of the leak's location through visual observation of the leak. Therefore, NuStar is in violation of § 195.52(c) for failing to have a written procedure that provides for a reasonable initial estimate of the amount of product released in the accident.

3. § 195.452 Pipeline integrity management in high consequence areas.

(a) . . . .

(h) What actions must an operator take to address integrity issues?

(1) . . . .

(4) Special requirements for scheduling remediation –

(i) . . . .

(iv) Other conditions. In addition to the conditions listed in paragraphs (h)(4)(i) through (iii) of this section, an operator must evaluate any condition identified by an integrity assessment or information analysis that could impair the integrity of the pipeline, and as appropriate, schedule the condition for remediation. Appendix C of this part contains guidance concerning other conditions that an operator should evaluate.

NuStar failed to evaluate an anomalous condition discovered by in-line inspection (ILI) that impaired the pipeline's integrity. From the investigation of the incident, PHMSA found that NuStar had detected the anomaly, and identified it as corrosion, however, it did not properly evaluate it. The pipeline at the release location is a 10-inch pipe, with an outside diameter of 10.75-inches and a wall thickness of 0.25 inches. The pipeline falls within a High Consequence Area (HCA).

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $266,015 per violation per day the violation persists, up to a maximum of $2,660,135 for a related series of violations. For violation occurring on or after January 6, 2023, and before December 28, 2023, the maximum penalty may not exceed $257,664 per violation per day the violation persists, up to a maximum of $2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022, and before January 6, 2023, the maximum penalty may not exceed $239,142 per violation per day the violation persists, up to a maximum of $2,391,412 for a related series of violations. For violation occurring on or after May 3, 2021, and before March 21, 2022, the maximum penalty may not exceed $225,134 per violation per day the violation persists, up to a maximum of $2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021, and before May 3, 2021, the maximum penalty may not exceed $222,504 per violation per day the violation persists, up to a maximum of $2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019, and before January 11, 2021, the maximum penalty may not exceed $218,647 per violation per day the violation persists, up to a maximum of $2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018, and before July 31, 2019, the maximum penalty may not exceed $213,268 per violation per day, with a maximum penalty not to exceed $2,132,679.

We have reviewed the circumstances and supporting documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of $ 161,800 as follows:

Item number	PENALTY
1	$ 68,800
2	$ 68,800
3	$ 24,200

Proposed Compliance Order

With respect to Items 1 and 2, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to NuStar. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment

under 5 U.S.C. § 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 3-2024-008-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

GREGORY ALAN OCHS

Digitally signed by GREGORY ALAN OCHS
Date: 2024.10.25 14:12:17 -05'00'

Gregory A. Ochs
Director, Central Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

cc: Gary Koegeboehn, Vice President of Pipeline Operations, NuStar, gary.koegeboehn@sunoco.com

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to NuStar a Compliance Order incorporating the following remedial requirements to ensure the compliance of NuStar with the pipeline safety regulations:

A. In regard to Item 1 of the Notice, pertaining to NuStar's failure to immediately report an accident to the NRC, NuStar must, within **60 days** of receipt of the Final Order, submit to the Director, PHMSA Central Region, a revised *Procedure 207 Pipeline Safety Accident Reporting* that includes clear guidance on the estimation of total property damage indicated by a release of materials that may be reportable. The revised procedure shall:

1. Include a definition of confirmed discovery that does not depend on visual estimation;
2. Include definitions for emergency situations and significant events, such as a rupture detected by SCADA, and provide appropriate criteria and time frame for evaluating each situation to determine if it is immediately reportable; and
3. Include a method considering each relevant factor for property damage included in PHMSA F 7000-1 Part D.8.

B. In regard to Item 2 of the Notice, pertaining to NuStar's failure to have a procedure for initially estimating the amount of product released in an accident, NuStar must, within **60 days** of Receipt of Final Order, submit to the Director, PHMSA Central Region, a revised *Procedure 209 Initial Estimate of Product Released from a Pipeline Facilit*y to provide for a reasonable calculation of the volume of a release. The revised procedure shall:

1. Include a method of calculation for all hazardous commodities transported by NuStar that addresses how to initially estimate a leak, rupture or rapid discharge of product indicated by SCADA or a leak detection system; and
2. Prescribe a volume to be reported for purposes of the PHMSA regulations that is in gallons or barrels.

C. It is requested that NuStar maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Gregory Ochs, Director, Central Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: (1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and (2) total cost associated with replacements, additions and other changes to pipeline infrastructure.