

**RULE 1159.1                      CONTROL OF NOX EMISSIONS FROM NITRIC ACID TANKS**

(a) Purpose

The purpose of this rule is to reduce emissions of nitrogen oxides from Nitric Acid Units.

(b) Applicability

This rule applies to owners and/or operators of facilities with one or more Nitric Acid Unit(s).

(c) Definitions

For purposes of this rule the following definitions shall apply:

- (1) AIR POLLUTION CONTROL DEVICE (APCD) means an equipment or multiple pieces of equipment in series that control NO<sub>x</sub> Emissions from one or more Nitric Acid Units. An APCD begins at the point where emissions are collected from a Nitric Acid Unit to the point where emissions are discharged into the air from an exhaust stack.
- (2) CLEANING TANK means a tank containing nitric acid used to remove surface contaminants from parts where nitric acid is not intended to react with a metal.
- (3) EXCEEDANCE YEAR means a calendar year when the annual adjusted nitric acid additions into Nitric Acid Unit(s) exceed either or both threshold(s) specified in clause (d)(2)(B)(i) or (d)(2)(B)(ii).
- (4) NITRIC ACID UNIT means tank, reactor, vessel, or other container containing nitric acid, where nitric acid either decomposes at a temperature greater than 1300-degree Fahrenheit or reacts with a metal, that has been issued or is required to obtain a South Coast AQMD permit. A Nitric Acid Unit does not include a container used exclusively to store nitric acid or a Rinse Tank.
- (5) NO<sub>x</sub> EMISSIONS means the sum of nitric oxide and nitrogen dioxide emitted, calculated and expressed as nitrogen dioxide.
- (6) RINSE TANK means any tank where a part is partially or fully submerged into a liquid to remove any residual solution from a Nitric Acid Unit.

(d) Nitric Acid Unit Requirements

(1) Nitric Acid Units Vented to an APCD

(A) Performance Standards for APCDs

Pursuant to the date specified in *Table 1 – Implementation Schedule*, an owner or operator of a Nitric Acid Unit shall collect and vent emissions

to an APCD that meets the requirements of either clause (d)(1)(A)(i) or (d)(1)(A)(ii) demonstrated by a source test that meets the requirements in subdivision (h):

- (d) (1) (A) (i) An overall NO<sub>x</sub> Emissions rate from the combined Nitric Acid Unit(s) vented to the APCD at or below 0.30 pounds per hour (lb/hr); or
- (ii) A NO<sub>x</sub> control efficiency of 99%, as determined by mass emissions.

(B) Submittal of Permit Applications

Pursuant to the date specified in *Table 1 – Implementation Schedule*, an owner or operator of a Nitric Acid Unit not equipped with an APCD or a Nitric Acid Unit equipped with an existing APCD required to be modified to meet the performance standards specified in clause (d)(1)(A)(i) or (d)(1)(A)(ii) shall submit a complete South Coast AQMD permit application for the APCD that meets the requirements in subparagraph (d)(1)(A).

(C) APCD Requirements for Parameter Monitoring

An owner or operator of an APCD installed or modified after December 6, 2024 to meet the requirements of subparagraph (d)(1)(A) that uses scrubber solution shall operate the APCD with:

- (i) A flowmeter to measure flowrate of scrubber solution for each stage of the APCD;
- (ii) A pH meter to measure pH of scrubber solution for each stage of the APCD; and
- (iii) A pressure differential measuring device to measure pressure drop across each stage of the APCD.

(2) Nitric Acid Units – Alternative Compliance Pathways

If an owner or operator of a Nitric Acid Unit elects to comply with an alternative pathway in lieu of meeting the requirements in paragraph (d)(1), the owner or operator shall comply with either subparagraph (d)(2)(A) or (d)(2)(B) for each Nitric Acid Unit pursuant to the schedule specified in *Table 1 – Implementation Schedule*:

(A) Source Testing

- (i) Submit a source test protocol pursuant to paragraph (h)(1);

- (d) (2) (A) (ii) Submit a complete South Coast AQMD permit application for each Nitric Acid Unit electing to comply with subparagraph (d)(2)(A) to include maximum operating conditions based on testing conditions described in clause (d)(2)(A)(i) that include:
  - (I) Operating temperature;
  - (II) Nitric acid concentration;
  - (III) Number of parts; and
  - (IV) List of metals with 10.5 percent or greater in the parts and the corresponding maximum percentage;
- (iii) Demonstrate all Nitric Acid Unit(s) at the facility electing to comply with subparagraph (d)(2)(A) do not exceed a combined NO<sub>x</sub> Emissions rate of 0.60 lb/hr, demonstrated by a source test that meets the requirements in subdivision (h);
- (iv) Not process a part containing a metal or metal alloy in a Nitric Acid Unit electing to comply with subparagraph (d)(2)(A), unless all metal(s) that comprise 10.5 percent or greater of the part have been evaluated by an approved source test that demonstrates compliance with clause (d)(2)(A)(iii); and
- (v) Operate the Nitric Acid Unit(s) pursuant to permit(s) containing operating conditions specified in the permit application submitted pursuant to clause (d)(2)(A)(ii).
- (B) Recording Additions to Nitric Acid Units  
Demonstrate for all Nitric Acid Unit(s) at the facility electing to comply with subparagraph (d)(2)(B) that no more than one calendar year of the most recent five calendar year period, including the current calendar year, exceeds either or both of the following limits on annual adjusted nitric acid additions to Nitric Acid Unit(s), as determined pursuant to paragraph (g)(3) or (g)(4) and *Appendix A – Nitric Acid Additions and Adjustments*:
  - (i) 550 gallons of nitric acid calculated at 68 weight percent (WT%) per calendar year per Nitric Acid Unit; and
  - (ii) 1650 gallons of nitric acid calculated at 68 WT% per calendar year for all Nitric Acid Units at the facility electing to comply with subparagraph (d)(2)(B).
- (3) Facilities with Multiple APCDs Complying with Clause (d)(1)(A)(i)

- (d) (3) Pursuant to the date specified in *Table 1 – Implementation Schedule*, an owner or operator of two or more APCDs electing to comply with the requirements of clause (d)(1)(A)(i) in lieu of clause (d)(1)(A)(ii) shall demonstrate that the combined NOx Emissions rates for all Nitric Acid Units vented to APCDs subject to clause (d)(1)(A)(i) do not exceed 0.90 lb/hr demonstrated by a source test that meets the requirements in subdivision (h).

**Table 1 – Implementation Schedule**

<b>Date Initial Permit to Operate Issued for Nitric Acid Unit</b>	<b>Rule Requirement</b>	<b>Compliance Date</b>
On or before December 6, 2024	(d)(1)(B) OR (d)(2)(A)(iii)	No later than January 1, 2026
	(d)(2)(A)(i) and (d)(2)(A)(ii)	No later than July 1, 2025
	(d)(2)(B)	Beginning January 1, 2026
	(d)(1)(A) and (d)(3)	Beginning 12 months after a permit to construct for an APCD is issued to meet the requirements of paragraph (d)(1)(B) unless an extension is granted, or beginning January 1, 2029, whichever is earlier <sup>1</sup>
	(d)(1)(C)	Beginning 12 months after a permit to construct for an APCD is issued to meet the requirements of subparagraph (d)(1)(A)
	(d)(2)(A)(iv) and (d)(2)(A)(v)	Beginning January 1, 2027
After December 6, 2024	(d)(1)(A) and (d)(3)	Beginning 120 days after initial operation of the APCD
	(d)(1)(C)	Beginning at time of initial operation of the APCD
	(d)(2)(A)(i) and (d)(2)(A)(ii)	Prior to initial operation of Nitric Acid Unit
	(d)(2)(A)(iii), (d)(2)(A)(iv) and (d)(2)(A)(v)	Beginning 120 days after initial operation of Nitric Acid Unit
	(d)(2)(B)	Beginning at time of initial operation of Nitric Acid Unit

<sup>1</sup> If previously elected to comply with subparagraph (d)(2)(A) or (d)(2)(B): Beginning 12 calendar months after a permit to construct for an APCD is issued unless an extension is granted or beginning 36 calendar months after meeting the requirements of (d)(1)(B), whichever is earlier.

- (d) (4) Labeling of Tanks

Beginning July 1, 2025, an owner or operator of a Nitric Acid Unit shall maintain clear labeling:

  - (A) Specifying the tank name or other identifier and South Coast AQMD application or permit number on each Nitric Acid Unit, unless the Nitric Acid Unit is subject to the labeling requirements specified in paragraph (f)(5) of Rule 1426 – Emissions from Metal Finishing Operations or paragraph (g)(3) of Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations; and
  - (B) With “Rule 1159.1 Cleaning Tank” for each Cleaning Tank.
- (e) Facilities Exceeding 550-gallon Individual or 1650-gallon for all Nitric Acid Units Threshold
  - (1) Ineligible for Compliance Pathway (d)(2)(B)

Pursuant to the schedule specified in *Table 2 – Implementation Schedule for Facilities Exceeding Usage Threshold*, an owner or operator of a Nitric Acid Unit electing to comply with subparagraph (d)(2)(B) that exceeded either or both threshold(s) specified in clause (d)(2)(B)(i) or (d)(2)(B)(ii) for any two calendar years within a five calendar year period shall thereafter meet the requirements of paragraph (d)(1) or subparagraph (d)(2)(A) for all Nitric Acid Unit(s) previously complying with subparagraph (d)(2)(B).
  - (2) Annual Usage Threshold

In lieu of meeting the requirements of subparagraph (d)(2)(B), beginning the calendar year following the second Exceedance Year and until meeting the requirements of subparagraph (d)(1)(B) or clauses (d)(2)(A)(i) through (iii), an owner or operator subject to the requirements of paragraph (e)(1) shall demonstrate that the annual adjusted nitric acid additions to the Nitric Acid Unit(s) formerly complying with the requirements of subparagraph (d)(2)(B), as determined pursuant to paragraph (g)(3) or (g)(4) and *Appendix A – Nitric Acid Additions and Adjustments*, do not exceed the either or both of the thresholds specified in clauses (d)(2)(B)(i) and (d)(2)(B)(ii) for each calendar year.

**Table 2 – Implementation Schedule for Facilities Exceeding Usage Threshold**

<b>Applicability</b>	<b>Rule Requirement<sup>1</sup></b>	<b>Effective Date</b>
Facilities required to comply with Subdivision (e)	(d)(1)(B) OR (d)(2)(A)(i) and (d)(2)(A)(ii)	No later than 12 months after the month in which the annual adjusted nitric acid additions exceed the threshold in the second Exceedance Year
	(d)(2)(A)(iii)	No later than 18 months after the month in which the annual adjusted nitric acid additions exceed the threshold in the second Exceedance Year
	(d)(1)(A) and (d)(3)	Beginning 12 months after a permit to construct for an APCD is issued to meet the requirements of paragraph (d)(1)(B) unless an extension is granted or beginning 36 months after the month in which the annual adjusted nitric acid additions exceed the threshold in the second Exceedance Year, whichever is earlier
	(d)(1)(C)	Beginning 12 months after a permit to construct for an APCD is issued to meet the requirements of subparagraph (d)(1)(A)
	(d)(2)(A)(iv) and (d)(2)(A)(v)	Beginning 30 months after the month in which the annual adjusted nitric acid additions exceed the threshold in the second Exceedance Year

<sup>1</sup> Except for the compliance deadlines specified in Table 1-Implementation Schedule

- (f) **Inspection and Maintenance of Air Pollution Control Device**  
Beginning January 1, 2025, an owner or operator of an APCD shall:
- (1) Conduct visual inspections for leaks and malfunctions on the APCD per the manufacturer's recommended schedule or at least once every quarter, whichever is more frequent; and
  - (2) Maintain and operate the APCD in accordance with manufacturer's specifications and recommendations.
- (g) **Monitoring and Recordkeeping Requirements**
- (1) **APCD Parameter Monitoring Requirements**

Beginning January 1, 2025, an owner or operator of a Nitric Acid Unit vented to an APCD shall monitor and record the following parameters for each APCD at least weekly for each week the APCD operates:

- (g) (1) (A) Flowrate of scrubber solution for each stage of the APCD, if equipped with a flowmeter(s);
- (B) pH of the scrubber solution for each stage of the APCD, if equipped with a pH meter(s); and
- (C) Pressure drop across each stage of the APCD, if equipped with a pressure differential measuring device(s).

- (2) Recordkeeping Requirements for Facilities Complying with Subparagraph (d)(2)(A)

An owner or operator of a Nitric Acid Unit electing to meet the requirements of subparagraph (d)(2)(A) shall maintain a specification sheet for each:

- (A) Product or part processed in the Nitric Acid Unit(s) that specifies either, the precise percentage or the maximum percentage, of all metal(s) present; and
- (B) Process type conducted in the Nitric Acid Unit that specifies the type of metals processed, and the acceptable operating conditions for nitric acid concentration and processing time.

- (3) Recordkeeping Requirements for Facilities Complying with Subparagraph (d)(2)(B) on or before July 1, 2025

Beginning July 1, 2025, an owner or operator of a Nitric Acid Unit electing to meet the requirements of subparagraph (d)(2)(B) on or before July 1, 2025 shall:

- (A) Additions of Nitric Acid

Record for each addition of nitric acid made to the Nitric Acid Unit(s) the following:

- (i) Date of the addition;
- (ii) Volume of the addition, in gallons;
- (iii) Concentration of nitric acid in the addition based on either:
  - (I) Highest concentration listed on the manufacturer's Safety Data Sheet (SDS); or
  - (II) Chemical analysis of a sample; and
- (iv) Volume of addition, calculated at 68 WT% pursuant to *Appendix A – Nitric Acid Additions and Adjustments*;

- (B) Optional Nitric Acid Removal Adjustments

If deducting the amount of nitric acid unreacted with a metal and removed from a Nitric Acid Unit(s), record the following information for each removal of unreacted nitric acid:

- (g) (3) (B) (i) Date of the removal;
  - (ii) Volume of the removal, in gallons;
  - (iii) Concentration of nitric acid removed as determined by chemical analysis; and
  - (iv) Volume of nitric acid removed, calculated at 68 WT% pursuant to *Appendix A – Nitric Acid Additions and Adjustments*;
  - (C) Retain:
    - (i) SDS or sample analysis report for each addition of nitric acid recorded; and
    - (ii) Sample analysis report of the sample for each nitric acid removal recorded; and
  - (D) Monthly Records of Additions to Nitric Acid Units  
No later than 14 days after each calendar month, calculate and record the adjusted additions of nitric acid at 68 WT% per month for each Nitric Acid Unit and all Nitric Acid Units(s), calculated pursuant to *Appendix A – Nitric Acid Additions and Adjustments* and recorded pursuant to *Appendix B – Recordkeeping Form*.
- (4) Recordkeeping Requirements for Facilities Complying with Subparagraph (d)(2)(B) after July 1, 2025  
Beginning the date electing to meet the requirements of subparagraph (d)(2)(B) or the date required to meet the requirements of paragraph (e)(2), an owner or operator shall comply with subparagraphs (g)(3)(A) through (D).
- (5) Annual Records of Additions to Nitric Acid Units  
No later than February 1 of the year following the year an owner or operator is required to comply with the requirements in paragraph (g)(3) or (g)(4) and no later than February 1 of each subsequent year, an owner or operator shall determine the annual adjusted nitric acid additions at 68 WT% for the preceding calendar year for each Nitric Acid Unit and all Nitric Acid Units(s), calculated pursuant to *Appendix A – Nitric Acid Additions and Adjustments* and recorded pursuant to *Appendix B – Recordkeeping Form*.

- (g) (6) Record Retention Requirements

The owner or operator shall maintain, keep on site for at least five years, and make available to the Executive Officer upon request all records required by this rule.
- (h) Source Testing Requirements and Test Methods
  - (1) Submittal of Source Test Protocol Prior to Source Testing
    - (A) Prior to conducting the first source test to demonstrate compliance with the requirement in clause (d)(1)(A)(i), (d)(1)(A)(ii), or subparagraph (d)(2)(A), the owner or operator of a Nitric Acid Unit shall submit a source test protocol with the information specified in paragraph (h)(2) or (h)(3), as applicable, to [sourcetesting@aqmd.gov](mailto:sourcetesting@aqmd.gov) or a South Coast AQMD web portal for approval.
    - (B) Prior to conducting any subsequent source test to meet the requirements specified in paragraph (h)(5), the owner or operator of a Nitric Acid Unit shall submit a source test protocol that includes the conditions, numbers, and parameters referenced by subparagraphs (h)(2)(A) through (H) if there are any changes in the conditions, numbers, or parameters referenced by subparagraphs (h)(2)(A) through (H) in the most recently-approved source test protocol or if the Executive Officer requests an updated or new source test protocol.
  - (2) Protocol for Source Tests for Nitric Acid Units Equipped with an APCD

An owner or operator of a Nitric Acid Unit demonstrating compliance with the requirement in clause (d)(1)(A)(i) or (d)(1)(A)(ii) shall submit a source test protocol that includes:

    - (A) Facility information;
    - (B) Description of the operations to be tested;
    - (C) Parameters being measured;
    - (D) Source test methods used including:
      - (i) Method 100.1 – Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling (March 1989); and
      - (ii) South Coast AQMD Methods 1.1-4.1 to determine stack gas flowrate;
    - (E) Design criteria and the ventilation parameters;
    - (F) The number of test runs;

- (h) (2) (G) Test conditions that represent normal operations of the Nitric Acid Unit(s); and
- (H) South Coast AQMD permits for the Nitric Acid Unit(s) controlled by the APCD.

(3) Protocol for Source Tests for Uncontrolled NO<sub>x</sub> Emissions from Nitric Acid Units

An owner or operator of a Nitric Acid Unit demonstrating compliance with the requirement in subparagraph (d)(2)(A) shall submit a source test protocol that includes:

- (A) Information specified in subparagraphs (h)(2)(A) through (F) and South Coast AQMD permit for the Nitric Acid Unit(s) and associated air pollution control device, if the Nitric Acid Unit(s) are vented to an air pollution control device;
- (B) Metals or metal alloys to be tested;
- (C) A product sheet that specifies either the precise percentage or the maximum percentage of metal(s) in a metal alloy listed pursuant to paragraph (g)(2); and
- (D) Test conditions, representing either maximum operations of the Nitric Acid Unit(s) or conditions approved by the Executive Officer, that include the following parameters:
  - (i) Temperature;
  - (ii) Nitric acid concentration; and
  - (iii) Number of parts processed.

(4) Conducting Source Tests

An owner or operator of a Nitric Acid Unit required to meet the requirements in clause (d)(1)(A)(i), (d)(1)(A)(ii), or subparagraph (d)(2)(A) shall conduct a single run source test:

- (A) According to the source test protocol most recently required pursuant to paragraph (h)(1), after it has been approved;
- (B) Confirming operations of the APCD is consistent with the design and operational conditions specified in its South Coast AQMD approved permit, if conducting a source test for an APCD; and
- (C) Confirming proper collection and quantification consistent with the applicable testing procedures regarding enclosures and emissions capture referenced in Rule 1469 or other South Coast AQMD-approved method,

if conducting a source test for a Nitric Acid Unit(s) not equipped with an APCD.

(h) (5) Periodic Source Testing for APCDs

No later than five calendar years from the last source test that demonstrated compliance with the requirement in clause (d)(1)(A)(i) or (d)(1)(A)(ii), an owner or operator of a APCD shall conduct a subsequent source test pursuant to paragraph (h)(4).

(6) Submittal of Final Source Test Report

No later than 120 days after date source test was conducted and no later than the applicable due date in Table 1, Table 2 or paragraph (h)(5), an owner or operator of a Nitric Acid Unit shall submit the complete final source test report to [sourcetesting@aqmd.gov](mailto:sourcetesting@aqmd.gov) or a South Coast AQMD web portal.

(i) Exemptions

The requirements of paragraphs (d)(1) through (d)(3), subdivision (g), and subdivision (h) do not apply to a Cleaning Tank described exclusively as a cleaning tank in the description of a South Coast AQMD permit.

### Appendix A – Nitric Acid Additions and Adjustments

#### 1. Applicability

This appendix specifies the methodology for calculating the annual additions of nitric acid containing chemicals to a Nitric Acid Unit(s) at the facility electing to comply with subparagraph (d)(2)(B) or required to comply with paragraph (e)(2).

#### 2. Nitric Acid Additions

The amount of chemicals containing nitric acid added, including those that are new or recycled, for each Nitric Acid Unit shall be determined as follows:

- A. For each addition, measure and record the volume, in gallons, to nearest tenth of a gallon, of the nitric acid solution added to each Nitric Acid Unit;
- B. For each addition, determine and record the WT% of nitric acid in the solution added. If only VOL% is available, convert to equivalent gallons at 100 VOL % which is same as 100 WT% (see Example 1 Step A and B);
- C. For each addition, calculate the equivalent volume (gallons at 68 WT%) using the density<sup>1,2</sup> (see Example 1 Step C);
- D. Add each addition (gallons at 68 WT%) made within the calendar month to determine the amount of monthly additions (see Example 1 Step D);
- E. Add each monthly addition (gallons at 68 WT%) to determine the amount of annual additions (see Example 1 Step E).

Example 1: Addition using 40 VOL% nitric acid

##### Step A

70.0 gallons of nitric acid with a concentration at 40 VOL% were added to a Nitric Acid Unit each month for one calendar year; the facility has 1 Nitric Acid Unit.

##### Step B

$$(70.0 \text{ gallons}_{40 \text{ VOL}\%}) * 0.40 \frac{\text{gallon}_{100 \text{ VOL}\%}}{\text{gallon}_{40 \text{ VOL}\%}} = 28.0 \text{ gallons}_{100 \text{ VOL}\%}$$

$$28.0 \text{ gallons}_{100 \text{ VOL}\%} = 28.0 \text{ gallons}_{100 \text{ WT}\%}$$

##### Step C

Density of 68 WT% nitric acid = 11.79 lb/gal

Density of 100 WT% nitric acid = 12.6 lb/gal

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<sup>1</sup> Use 12.6 lb/gal as the density for 100 WT% nitric acid solution and 11.79 lb/gal as the density for 68 WT% nitric acid solution.

<sup>2</sup> If calculating from another WT %, use the density as analyzed or specified in the SDS

$(28.0 \text{ gallons}_{100 \text{ WT}\%}) * (1.00/0.68) * [(12.6 \text{ lb/gal}) / (11.79 \text{ lb/gal})] = 44.0 \text{ gallons of } 68 \text{ WT}\% \text{ nitric acid added}$

Step D

$(44.0 \text{ gallons of } 68 \text{ WT}\% \text{ nitric acid added}) * 1 = 44.0 \text{ gallons of } 68 \text{ WT}\% \text{ nitric acid was added monthly}$

Step E

$(44.0 \text{ gallons}_{68 \text{ WT}\%}) * 12 = 528 \text{ gallons nitric acid}_{68 \text{ WT}\%} \text{ added annually}$

3. Nitric Acid Removal Adjustments (Optional)

The amount of nitric acid removed from a Nitric Acid Unit shall be determined as follows:

- A. For each removal, measure and record the volume of the nitric acid solution removed, to the nearest tenth of a gallon, from each Nitric Acid Unit;
- B. For each removal, determine and record the WT% of nitric acid solution removed via chemical analysis conducted by an on-site laboratory or a third-party laboratory. If only VOL% is available, convert to equivalent gallons at 100 VOL % which is same as 100 WT% (see Example 2 below);
- C. For each removal, calculate the equivalent volume (gallons at 68 WT%) using the density;
- D. Add each removal (gallons at 68 WT%) made within the calendar month to determine the amount of monthly reductions;
- E. Add each monthly reduction (gallons at 68 WT%) to determine the amount of annual removal adjustment.

Example 2: Removal of a 20 VOL% nitric acid

Step A

10.0 gallons of nitric acid with a concentration at 20 VOL% was removed from a Nitric Acid Unit twice each month for one calendar year; the facility has 1 Nitric Acid Unit.

Step B

$(10.0 \text{ gallons}_{20 \text{ VOL}\%}) * 0.20 \frac{\text{gallon}_{100 \text{ VOL}\%}}{\text{gallon}_{20 \text{ VOL}\%}} = 2.0 \text{ gallons}_{100 \text{ VOL}\%}$

$2.0 \text{ gallons}_{100 \text{ VOL}\%} = 2.0 \text{ gallons}_{100 \text{ WT}\%}$

Step C

Density of 68 WT% nitric acid = 11.79 lb/gal

Density of 100 WT% nitric acid = 12.6 lb/gal

$(2.0 \text{ gallons}_{100 \text{ WT}\%}) * (1.00/0.68) * [(12.6 \text{ lb/gal}) / (11.79 \text{ lb/gal})] = 3.14 \text{ gallons of } 68 \text{ WT}\% \text{ nitric acid removed}$

## Step D

(3.14 gallons of 68 WT% nitric acid removed) \* 2 = 6.28 gallons of 68 WT% nitric acid was removed monthly

## Step E

(6.28 gallons<sub>68 WT%</sub>) \* 12 = *75.4 gallons nitric acid<sub>68 WT%</sub> removed annually*

## 4. Annual Adjusted Nitric Acid Additions

The total amount of annual adjusted nitric acid additions to a Nitric Acid Unit(s) at the facility electing to comply with subparagraph (d)(2)(B) or required to comply with paragraph (e)(2) shall be determined as follows:

- A. Determine the total annual amount of nitric acid added per calendar year, both new and recycled;
- B. Determine the total annual amount of nitric acid removed per calendar (optional);
- C. Subtract the total annual amount of nitric acid removed from the total annual amount of nitric acid added to determine the amount of annual adjusted additions.

Example 3: Annual additions of 40 VOL% nitric acid and removal of 20 VOL% nitric acid that incorporates numbers derived from Examples 1 and 2

## Step A

*528 gallons of nitric acid<sub>68 WT%</sub> added annually*

## Step B

*75.4 gallons of nitric acid<sub>68 WT%</sub> removed annually*

## Step C

(528 gallons<sub>68 WT%</sub> added annually) – (75.4 gallons<sub>68 WT%</sub> removed annually) = **452.6 gallons of nitric acid<sub>68 WT%</sub> additions for calendar year after adjustments**

**Appendix B – Recordkeeping Form**

Form A - South Coast AQMD Rule 1159.1 Recordkeeping Form

Nitric Acid Unit\*

Facility ID:		Tank Number:
Facility Name:		
Calendar Year:		
	<b>Additions @ 68 WT% (gallons)</b>	<b>Optional Removal Adjustments @ 68 WT% (gallons)</b>
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
<b>Annual Adjusted Nitric Acid Additions: _____ gallons</b>		

**Is the Annual Adjusted Nitric Acid Addition below 550 gallons?**Yes ☐ No ☐

If two or more calendar years within a five-calendar year period exceed the above threshold, South Coast AQMD Rule 1159.1 subdivision (e) applies.

*\*Use one Form A for each Nitric Acid Unit electing to comply with subparagraph (d)(2)(B) or required to comply with subdivision (e)*

**Appendix B – Recordkeeping Form (continued)**

## Form B - South Coast AQMD Rule 1159.1 Recordkeeping Form

## Facility-Wide Nitric Acid Usage\*

Facility ID:		
Facility Name:		
Calendar Year:		
	<b>Additions @ 68 WT% (gallons)*</b>	<b>Optional Removal Adjustments @ 68 WT% (gallons)*</b>
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
<b>Annual Adjusted Nitric Acid Addition: _____ gallons</b>		

**Is the Annual Adjusted Nitric Acid Addition below 1650 gallons?**

Yes ☐ No ☐

If two or more calendar years within a five-calendar year period where exceed the above threshold, South Coast AQMD Rule 1159.1 subdivision (e) applies.

*\*Total volume from all applicable Nitric Acid Unit(s) electing to comply with subparagraph (d)(2)(B) or required to comply with subdivision (e)*