PERMITTEE

Robert Gredick, President/ CEO
Venice Precision, LLC
112 Morse Court
North Venice, FL 34275

Permitting Authority
Sarasota County Natural Resources (SCNR)
Air Quality/ Storage Tank Management (AQ/STM)
1001 Sarasota Center Blvd.
Sarasota, Florida 34240

Project
Air Permit No. 1150166-002-AC
Beryllium Machining Air Construction Permit
Venice Precision, LLC

Project: Modified air construction permit to allow after-the-fact construction of a metal machine shop which machines, grinds, laps and polishes to millionths, materials containing beryllium (e.g., pure beryllium (BE); beryllium compounds/ alloys including Albemet and beryllium copper); titanium; and complex aluminum castings at Venice Precisions, LLC, 112 Morse Court, North Venice, Sarasota County, Florida 34275.

NOTICE AND COMMENTS

SCNR issued the air construction permit package on November 3, 2011. Comments on the Air Construction Permit were received from Department of Environmental Protection, Tallahassee, FL. These have been addressed in the Modified Air Constriction Permit.

CONCLUSION

The final action is to issue the Modified Air Construction Permit.

S11PC.005

SARASOTA COUNTY
"Dedicated to Quality Service"

March 14, 2011

MODIFIED AIR CONSTRUCTION PERMIT

CERTIFIED MAIL #7006 0810 0003 3961 4574
RETURN RECEIPT REQUESTED

PERMITTEE:
Venice Precision, LLC
112 Morse Court
North Venice, FL 34275

Air Permit No.: 1150166-002-AC
County: Sarasota County
Expiration Date: December 1, 2011

Authorized Representative:
Robert Gredick, President/ CEO

Venice Precision, LLC
Modified Air Construction Permit
Project: Machine shop which processes materials containing beryllium

This modified air construction permit (permit 1150166-002-AC) authorizes after-the-fact construction of a metal machine shop which machines, grinds, laps and polishes to millionths, materials containing beryllium (e.g., pure beryllium (BE); beryllium compounds/ alloys, including Albemet and beryllium copper); titanium; and complex aluminum castings. The permitted emission unit is the machine shop which processes materials containing beryllium (Standard Industrial Classification No. 3599), issued pursuant to Section 403.087, Florida Statutes, (F.S.). The facility is located in Sarasota County at 112 Morse Court, North Venice, Florida 34275; the UTM coordinates are Zone 17, 360.788 East, and 3003.286 North.

(Clarification: The National Emission Standard for Beryllium is applicable to machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight. Machine shop means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations. [40 CFR Part 61 Subpart C Section 61.30 (b) and 61.31 (d)])

This permit is organized by the following sections.

Section 1. General Information
Section 2. Administrative Requirements
Section 3. Facility Wide Specific Conditions
Section 4. Emissions Unit Specific Conditions
Section 5. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Section 5. Appendix A of this permit.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-204, 62-210, 62-212, 62-213, 62-296, 62-297, and Chapter 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with Sarasota County Natural Resources (SCNR). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Any party to this Order (air permit) has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Office of the County Attorney, 1660 Ringling Boulevard, Sarasota, Florida 34236; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date this Order is filed with the Clerk of the Office of the County Attorney.

Executed in Sarasota, Florida.

SARASOTA COUNTY NATURAL RESOURCES
AIR QUALITY /STORAGE TANK MANAGEMENT

Susan Cameron
Environmental Specialist III
Sarasota County Natural Resources
Air Quality/ Storage Tank Management

John T. Hickey, P.E.
Manager
Sarasota County Natural Resources
Air Quality/ Storage Tank Management

Enclosure

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this Notice of Final Air Permit package was mailed by certified mail before the close of business on ***March 15, 2011*** to:

Robert Gredick, President/ CEO, Venice Precision, LLC, 112 Morse Court, North Venice, FL 34275

The undersigned duly designated deputy clerk hereby certifies that this Notice of Final Air Permit package was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on ***March 15, 2011*** to the persons listed below:

Cc: Marvin Scott, Senior Environmental Engineer, Environmental Engineering Consultants, Inc., mscott@eec-tampabay.com

Cindy Zhang-Torres, P.E. III, Air Permitting Supervisor, FDEP SW District, 13051 North

Telecom Parkway, Temple Terrace, FL 33637-0926; Cindy.Zhang-Torres@dep.state.fl.us

David M. Pearce, Attorney, Sarasota County Office of the County Attorney; dpearce@scgov.net

Melissa L. Wagar, Sarasota County Office of the County Attorney; mwagar@scgov.net

Clerk Stamp

SARASOTA COUNTY
AIR QUALITY

MAR 15 2011

STORAGE TANK MGMT.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52(7), F.S., with the designated SCNR Clerk, receipt of which is hereby acknowledged.

Clerk — Date ***March 15, 2011***

S11PC.006

SECTION 1. GENERAL INFORMATION

PERMITTEE:
Venice Precision, LLC
112 Morse Court
North Venice, FL 34275

FINAL Permit Nos.: 1150166-002-AC
County: Sarasota
Effective Date: March 14, 2011
Expiration Date: December 1, 2011
Project: Machine shop which processes materials containing beryllium

FACILITY AND PROJECT DESCRIPTION

This modified air construction permit (Permit 1150166-002-AC) authorizes after-the-fact construction of a metal machine shop which machines, grinds, laps and polishes to millionths, materials containing beryllium (e.g., pure beryllium (BE); beryllium compounds/ alloys including Albemet and beryllium copper); titanium; and complex aluminum castings. The permitted emission unit is the machine shop which processes materials containing beryllium (Standard Industrial Classification No. 3599), issued pursuant to Section 403.087, Florida Statutes, (F.S.). The facility is located in Sarasota County at 112 Morse Court, North Venice, Florida 34275; the UTM coordinates are Zone 17, 360.788 East, and 3003.286 North.

(Clarification: The National Emission Standard for Beryllium is applicable to machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight. Machine shop means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations. [40 CFR Part 61 Subpart C Section 61.30 (b) and 61.31 (d)])

Equipment at the facility used in machining materials containing beryllium will consist of:

7 Machining Centers:

- 2 *YCM machining centers w/ 4-axis vertical accessories/ angle plates/ rotary tables/ 50 taper tool holders;*
- 3 *Mori Seiki machining centers w/ 4-axis vertical accessories/ angle plates/ rotary tables/ 50 taper tool holders; and,*
- 2 *Okuma Howa 4VA machining centers w/ 4-axis vertical accessories/ angle plates/ rotary tables/ 50 taper tool holders.*

2 CNC Lathes:

- 1 *Hardinge Lathe Live tooling w/ numerous chucks/ tool holders; and,*
- 1 *Mori Seiki Lathe Live tooling w/ numerous chucks/ tool holders.*

3 manual lathes:

- 3 *Hardinge HLV tool room lathes w/ numerous chucks/ tool holders.*

SECTION 1. GENERAL INFORMATION

2 wire EDM's:

2 *Charmilles w/ numerous holding fixtures.*

1 manual milling machine:

1 *Deckel horizontal and vertical mill w/ numerous holding fixtures .*

1 hone:

1 *Sunnen Hone MBB w/ numerous holding fixtures.*

6 lapping and polishing equipment:

1 *Peter Walters Double Disc lapping w/6 rings;*
1 *Lapmaster 36 w/ 3 rings;*
1 *Lapmaster 24 w/ 3 rings;*
1 *Lapmaster 15 w/ 3 rings; and,*
2 *Hyprez/ Engis 15 Polishing w/ 3 rings.*

3 deburring and tumbling machines:

1 *Donaldson Torit debussing station;*
1 *Witt Dremels & 10-30 power scopes (used for inspection ONLY); and*
1 *Almco Tub Vibrating Tumbler 60".*

9 drill presses:

1 *Rockwell;*
4 *Walker Turner;*
1 *Delta;*
2 *Duracraft Clausing; and,*
1 *Dumore.*

5 Non-Halogenated solvent cleaners:

4 *Ultrasonic degreasers; and*
1 *pan rinse tank*

1 new* diamond fly cutting machine; and

1 new* 5-axis machining center.

*where new refers to future equipment not yet purchased or installed

3 Vertical Machining Centers:

3 *Mori Seiki vertical machining centers w/ 4-axis vertical accessories/ angle plates/ rotary tables/ 50 taper tool holders.*

1 manual lathe:

1 *LeBlonde manual lathe.*

1 wire EDM:

1 *Mitsubishi Die Sink.*

3 Heat treating ovens*:

1 *Grieve 1200 degrees F;*
1 *Electro Oven 1000 degrees F; and*
1 *Associated Environmental oven.*

** These ovens are not considered "incinerators" as defined in 40 CFR 61.31.*

Equipment on-site NOT used in machining materials containing beryllium includes:

4 grinders (used for carbide cutting tools ONLY):

1 *Tool grinder 3012/17;*
1 *Tool grinder 1283277;*
1 *Pedestal grinder; and,*
1 *Surface grinder.*

26 inspection tools that do NOT generate air emissions AND are exempt from air permitting:

1 *Cordax RX-50;*
1 *Cordax RX-35;*
2 Zeiss Contura G2;
1 *OGP Smart Scope;*
1 *Cordax 4 manual;*
1 *Zeiss Rondcom 31C;*
1 *Zygo Interferometer;*
1 *Auto collimators;*
1 *Doall & VanKeuren Flats*
1 *Hilger & Watts Autocolimater*
1 *Leitz Wetzlar Autocolimater;*
1 *Sheffield electronic indicators w/ amplifiers;*
1 *Sheffield surface roughness;*
1 *Rockwell hardness tester;*
1 *Carl Mahr indicators;*
1 *Johansson Mikrokater;*
1 *Surface plates;*
1 *Placheks;*
2 *Webber blocks;*
1 *Height gauges (various);*
1 *Plug gauges (various);*
1 *Vermont gauges;*
1 *Indicators (various); and,*
1 *Scopes.*

Particulate matter hazardous air pollutant (HAP) emissions (i.e., beryllium) from operation of the machining equipment are collected by a local HEPA filter at the machine. All machines are individually equipped w/ a Donaldson Torit DryFlo HEPA filtration system on top of the machine (filter #1). These HEPA filters exhaust inside of the building.

Additionally when machining BE, equipment will have a vacuum collection -> a remote cyclone -> HEPA filtration system (filter #2) -> atmosphere through one of 2 horizontal wall vents (1 facing North; 1 facing East).

The first filter (filter #1) captures 99.5% of machining emissions; the cyclone w/ second HEPA filter (filter #2) captures 95% of un-captured filter one emissions. There are two Aerotec Industries 1960 20 N60-395-B DRS-2 cyclone filter systems on-site; one is in use. All control equipment is located inside of Venice Precision, LLC. The final stage (cyclone & HEPA filtration [e.g., filter #2]) exhausts to the atmosphere through one of 2 horizontal wall vents (1 facing North; 1 facing East).

The conditions of this permit will ensure emissions remain below the Title V permitting thresholds of Chapter 62-213, F.A.C.

FACILITY REGULATORY CLASSIFICATION

Subject to:	Y/N
Rule 62-212.300, Stationary Sources – Preconstruction Review, General Preconstruction Review Requirements, F.A.C.[1]	Y
Rule 62-212.400, Prevention of Significant Deterioration, F.A.C[2]	N
Rule 62-296.320, Stationary Sources – Emission Standards – General Pollutant Emission Limiting Standards, F.A.C.[3, 4]	Y
Rule 62-296.500, Reasonably Available Control Technology (RACT) – Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) Emitting Facilities[5]	N
Rule 62-296.700, Reasonably Available Control Technology (RACT) Particulate Matter[6]	N
Rule 62-204.800(8), Stds. of Performance for New Stationary Sources, F.A.C.[7] (NSPS)	N
Rule 62-204.800(10), Natl. Emission Stds. for Hazardous Air Pollutants, F.A.C.[8] (NESHAPS)	Y
Chapter 62-213, Operation Permits for Major Sources of Air Pollution, F.A.C.[9]	N
Rule 62-297.310, Stationary Sources – Emissions Monitoring - General Compliance Test Requirements, F.A.C.[10]	Y

1. Not exempt from general permitting requirements.
2. Facility is PSD minor source.
3. Facility is a source of unconfined particulate matter.
4. Facility may be a source of odors.
5. Facility is not located in an ozone nonattainment or air quality maintenance area.
6. Facility is not located in a PM air quality maintenance area or in the area of influence of such an area.
7. Facility is not subject to NSPS.
8. Facility is subject to 40 CFR 61 NESHAP Subpart C - National Emission Standard for Beryllium and 40 CFR 61 Subpart A - General Provisions for 40 CFR 61 National Emission Standards for Hazardous Air Pollutants (NESHAP).
9. Facility is minor. This facility is not a major source of hazardous air pollutants (HAPs) (i.e. potential emissions of HAPs are less than 10 TPY for any single HAP and 25 TPY for total combined HAPs). Facility is subject to 40 CFR 61 NESHAP Subpart C - National Emission Standard for Beryllium as an area source and on that basis is not required to have a Title V major source permit per s. 403.0872(1)(e), F.S.

SECTION 1. GENERAL INFORMATION

10. Compliance testing required annually.

PERTINENT DOCUMENTS:
Original air pollution construction permit application dated July 27, 2010.

Facility Information Summary:
Site/Location: Venice Precision, LLC; 112 Morse Court, North Venice, Sarasota County, Florida 34275
UTM: 17-360.788 E 3003.286 N Latitude: 27°08'42.3708" Longitude: 82°24'17.4924"
Facility ID No: 1150166 Emission Unit (EU) ID No.: 001 - Beryllium Machining

Note: Please reference Permit No. and Emission Unit (EU) ID No. in all correspondence, test report submittals, applications, etc.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is Sarasota County Natural Resources (SCNR), Air Quality/Storage Tank Management. SCNR's mailing address is: SCNR Air Quality/ Storage Tank Management; 1301 Cattlemen Road; Building A, Second Floor; Sarasota, Florida 34232. All documents related to applications for permits shall be submitted in triplicate to SCNR.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to SCNR. The mailing address and phone number are: SCNR Air Quality/ Storage Tank Management; 1301 Cattlemen Road; Building A, Second Floor; Sarasota, Florida 34232; (941)861-6230.

3. Appendices: The following Appendices are attached as part of this permit:

   Appendix A. Citation Formats and Glossary of Common Terms;

   Appendix B. General Conditions;

   Appendix C. Common Conditions;

   Appendix D. Common Testing Requirements;

   Appendix E. 40 CFR 61 Subpart C National Emission Standard for Beryllium;

   Appendix F. 40 CFR 61 Subpart A General Provisions; and

   Appendix G. Venice Precision, LLC Operation/ Maintenance Plan

4. Applicable Regulations, Forms, and Application Procedures: All applicable rules and design discharge limitations specified in the application shall be adhered to. The facility is subject to all applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Rules 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297. Issuance of this permit does not relieve the permittee from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Florida Department of Environmental Protection (DEP), SCNR or any other such requirements under Federal, State, or Local law. [Rules 62-210.300, and 62-4.070(7), F.A.C.]

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, SCNR may require the permittee to conform to new or additional conditions. SCNR shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, SCNR may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modification: No emissions unit or facility shall be constructed or modified without obtaining an air construction permit from SCNR in accordance with all applicable provisions of Rules 62-4, 62-210, and 62-212, F.A.C, or other applicable state, federal, or local law. Such permit must be obtained prior to the beginning of construction or modification. [40 CFR 61 Subparts A and C; Rules 62-4.030, 62-4.070(3), 62-4.080(2), 62-210.300(1), and 62-212.300(1), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

7. Rule Compliance: A facility or emissions unit subject to any standard or requirement of 40 CFR. Part 60, 61, 63 or 65, adopted and incorporated by reference at Rule 62-204.800, F.A.C., shall comply with such standard or requirement. [Rule 62-296.100(3) F.A.C.]

8. Air Operation Permit: A completed application for an air operation permit shall be submitted to SCNR Air Quality/ Storage Tank Management no later than 60 days prior to the expiration date of the construction permit. To properly apply for an operation permit, the applicant shall submit the following:
   A. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;
   B. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;
   C. a copy of the compliance test report specified in Specific Condition No. 13; and
   D. a copy of the most recent two (2) months of the equipment operating records specified in Specific Condition No. 17.

   [Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

SECTION 3. FACILITY WIDE SPECIFIC CONDITIONS
Facility Wide

Facility wide *Performance Restrictions*:

This section of the permit addresses the entire facility. Facility wide General Conditions, Common Conditions and Common Testing Conditions are located in Appendices B, C and D, respectively.

9. Operating Hours and Emissions Limits – The beryllium machining operations are permitted to operate continuously (i.e., 8,760 hours/year). Emissions from the facility are limited to less than 10 TPY for any single HAP and 25 TPY for total combined HAPs. [Rules 62-4.070 (3) and 62-210.239(PTE), F.A.C.]

10. Emission Control System Circumvention and Operation - The permittee shall not circumvent any air pollution control devices or allow the emissions of air pollutants without the applicable air pollution control devices (i.e., Aerotec Industries 1960 cyclone, filter and HEPA filter) operating properly. Emission control system operating procedures shall include the following:
    a. Upon startup the outlets of the vacuum system shall be checked for vacuum flow;
    b. All vacuum lines that are not in use shall be plugged;
    c. The cyclone, filter and HEPA filter shall be checked daily upon startup and any necessary repairs or replacements made as needed; and
    d. The emission control system shall continue to run for at least 5 minutes after all beryllium machining equipment has been turned off.

    [Rules 62-210.650 and 62-4.070(3), F.A.C.]

    (Permitting Note: The control system exhaust stack exhausts inside the building (with any subsequent exhaust to the atmosphere occurring from nearby building ventilation vent (s)). Reasonable assurance of the effectiveness of the emission control system is provided by the daily, monthly and quarterly checks of the permittee's Operation/ Maintenance Plan (see Section 5 Appendix G).

SECTION 4. EMISSIONS UNIT SPECIFIC CONDITIONS
A. Emissions Unit 001

Emissions Units -001 *Performance Restrictions*:

Emissions Unit ID No.	*Description*
001	Machine shop which processes materials containing beryllium

11. 40 CFR 61 NESHAP Requirements - The *machine shop which processes materials containing beryllium* is subject to and shall comply with the applicable requirements *(see Applicable Provision References below)* of 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart C (National Emission Standard for Beryllium)*, as adopted and incorporated by reference in Rule 62-204.800(10)(b)1., F.A.C., and contained in the attached Section 5 Appendix E 40 CFR 61 Subpart C; and the applicable requirements of 40 CFR 61 Subpart A General Provisions, as adopted and incorporated by reference in Rule 62-204.800(10)(d)., F.A.C., and contained in the attached Section 5 Appendix F 40 CFR 61 Subpart A.

    **See the following attached appendices:*
    Appendix E. 40 CFR 61 Subpart C National Emission Standard for Beryllium; and

    Appendix F. 40 CFR 61 Subpart A General Provisions; and

    40 CFR 61 Subpart C Applicable Provision References [1, 2]
    40 CFR 61 Subpart C - National Emission Standards for Beryllium
    61.30 Applicability.
    61.30(b)
    61.31 Definitions.
    61.32 Emission standard.[3]
    61.32(a) and (c)
    61.33 Stack sampling.
    61.33(a) *(Test method requirements only)*
    61.33(b)

    *([1] **NOTE:** Entire section applies unless otherwise noted with specific applicable subsection references.)*

    ([2] Permitting Note: The above applicability references are based upon current operations as reflected in the construction permit application dated 07/27/2010. Any change in operations may change the applicable provisions.)

    ([3] Permitting Note: For accessibility, the key beryllium emission limitation from the above 40 CFR 61 Subpart C NESHAP standard is also shown in Specific Condition 12. below.)

    [Rules 62-204.800(10)(b)1. and (d), F.A.C.; NESHAP 40 CFR 61 Subpart C and Subpart A]

12. Beryllium Emission Limitation - Emissions to the atmosphere from machine shop which processes materials containing beryllium shall not exceed 10 grams (0.022 lb) of beryllium over a 24-hour period. [Rule 62-204.800(10)(b)1., F.A.C.; NESHAP Subpart C 40 CFR 61.32a]

SECTION 4. EMISSIONS UNIT SPECIFIC CONDITIONS
A. Emissions Unit 001

Compliance Testing Requirements

13. Beryllium Compliance Testing - The emission control system exhaust shall be tested for beryllium emissions within 90 days of initial *startup** in accordance with test Method 104 (or 103, the approved alternative method) of 40 CFR 61 Appendix B; ***AND*** within each federal fiscal year (October 1 – September 30) thereafter. A copy of the test report shall be submitted to SCNR, within 45 days after the test is completed. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rules 62-297.310 and 297.401, F.A.C. [Rules 62-4.070(3), 62-204.800(10), 62-297.310, and 62-297.401, F.A.C.; NESHAP Subpart C; 40 CFR 61.33]

    (Clarification: "Startup" – Startup means the setting in operation of a stationary source for any purpose *[40 CFR 61 Subpart A General Provisions, Section 61.02 Definitions, (2)])*

14. Operation During Compliance Testing - Compliance testing shall be conducted during normal operation with a maximum of five (5) pieces of equipment (e.g., 3 lathes and 2 machining centers) having vacuum hoses connected to the remote cyclone while machining materials containing beryllium (e.g., pure beryllium; beryllium alloys including albemet and beryllium copper), if feasible. If testing is conducted with fewer pieces of equipment in operation (i.e., 1, 2, 3 or 4), then future operation is limited to no more pieces of equipment in operation machining beryllium at the same time than the number in operation during the most recent compliance test, until such time as a test is conducted with more pieces of equipment in operation. Once operation is so limited, operation with a greater number of pieces of machining equipment in operation at the same time machining beryllium is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the authority to operate at the permitted capacity of 5 machines.

    (Clarification: When a unit is limited to operation of 1, 2, 3 or 4 machines, the permittee may provide a 15-day notice of its intent to conduct an additional test. The notice shall specify a 15-day period during which the facility will be allowed to operate with a greater number of pieces of equipment for the purposes of testing.)

    The test results shall be submitted to SCNR within 45 days of testing. The stack test report shall include a statement of equipment in operation machining beryllium during the test. Failure to provide such a statement or operating at conditions which do not reflect the normal operating conditions, may invalidate the test. [Rules 62-4.070(3), and 62-297.310(2), F.A.C.]

15. Compliance Test Notification - The permittee shall notify SCNR at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.310(7)(a)9, F.A.C.]

Compliance Monitoring Requirements

16. Emission Control System Periodic Monitoring - The performance/effectiveness of the Industravac emission control system shall be monitored by following the procedures and daily, monthly and quarterly checks as detailed in the "Venice Precision, LLC Operation/ Maintenance Plan"* dated July 27, 2010 and prepared by Environmental Engineering Consultants, Inc. *(Appendix G)*; or a subsequent version of this plan submitted to and accepted by SCNR. [Rules 62-210.650 and 62-4.070(3) F.A.C]

(Permitting Note: This* "Venice Precision, LLC Operation/ Maintenance Plan" *is not a formal compliance plan, as one is not required for this facility nor is it required by NESHAP 40 CFR 61 Subpart C. Rather it is an operation/ maintenance plan voluntarily proposed and agreed to by Venice Precisions, LLC to provide routine reasonable assurance of proper and effective operation of the control system.)*

Recordkeeping Requirements

17. Equipment Operating Records - In order to document compliance with the equipment in operation requirements of Specific Condition No. 10, the permittee shall keep daily records of the operation of equipment being used to machine materials containing beryllium (e.g., pure beryllium; beryllium alloys including albemet and beryllium copper). At a minimum the records shall contain the following:
    a. the date and the name of the person making the record entry; and
    b. the number of pieces of equipment in simultaneous operation machining materials containing beryllium (e.g., pure beryllium; beryllium alloys including albemet and beryllium copper); on that day.

    If the most recent beryllium emissions compliance test was done with less than 5 machines in operation machining beryllium, then for any day that there are more machines in operation than the number tested the records shall also show the following for each of those machines*: the start and stop time for any period of operation machining beryllium.

    (Permitting Note: The additional periods of operation records are necessary to document that only the allowed number of pieces of equipment are in operation at the same time machining beryllium as required by Specific Condition No. 14.)*
    [Rule 62-4.070(3), F.A.C.]

SARASOTA COUNTY NATURAL RESOURCES
AIR QUALITY /STORAGE TANK MANAGEMENT

Susan Cameron
Environmental Specialist III
Sarasota County Natural Resources
Air Quality/ Storage Tank Management

John T. Hickey, P.E.
Manager
Sarasota County Natural Resources
Air Quality/ Storage Tank Management

P.E. CERTIFICATION STATEMENT

Permittee:
Robert Gredick, President/ CEO
Venice Precision, LLC
112 Morse Court
North Venice, Florida 34275

Permit No.: 1150166-002-AC
Facility ID No.: 1150166

Project Type: Modified air construction permit to allow after-the-fact construction of a metal machine shop which machines, grinds, laps and polishes to millionths, materials containing beryllium (e.g., pure beryllium (BE); beryllium compounds/ alloys, including Albemet and beryllium copper); titanium; and complex aluminum castings at Venice Precisions, LLC, 112 Morse Court, North Venice, Sarasota County, Florida 34275.

I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes; and Chapters 62-4, and 62-204 through 62-297, Florida Administrative Code. However, I have not evaluated and I do not certify aspects of the proposal that are outside my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological and geological features).

John T. Hickey, P.E.
Registration Number: #49412

3/14/11
Date

Permitting Authority:
Sarasota County ESBC
Air Quality/Storage Tank Management
1001 Sarasota Center Blvd.
Sarasota, Florida 34240
Telephone: 941-861-0675
Fax: 941-861-6267

S11PC.008

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Appendix F.	40 CFR 61 Subpart A, General Provisions for 40 CFR 61 National Emission Standards for Hazardous Air Pollutants (NESHAP)
Appendix G.	40 CFR 61 Appendix B. NESHAP Test Methods
Appendix H.	Venice Precision, LLC Operation/ Maintenance Plan

CITATION FORMATS:

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Permit Numbers

Example: Permit Nos. 1150001-001-AC, 1150001-002-AF, 1150001-002-AO, or 1150001-002-AV

Where:

115	represents Sarasota County, the county ID # in which the project is located;
0001	represents the specific facility ID number for that county;
001	identifies the specific permit project number;
AC	identifies the permit as an air construction permit;
AF	identifies the permit as a minor source federally enforceable state air operation permit;
AO	identifies the permit as a minor source air operation permit; and
AV	identifies the permit as a major Title V air operation permit.

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

acf: actual cubic feet

AQ/STM: Sarasota County Natural Resources, Air Quality/ Storage Tank Management

ARMS: Air Resources Management System (DEP database)

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

CFR: Code of Federal Regulations

BACT: best available control technology

CAA: Clean Air Act

CMS: continuous monitoring system

CO: carbon monoxide

CO_2: carbon dioxide

COMS: continuous opacity monitoring system

DARM: Division of Air Resource Management

DEP: Department of Environmental Protection

Department: Department of Environmental Protection

AAQS: Ambient Air Quality Standard

acfm: actual cubic feet per minute

dscf: dry standard cubic feet

dscfm: dry standard cubic feet per minute

EPA: Environmental Protection Agency

esp: electrostatic precipitator (control system for reducing particulate matter)

EU: emissions unit

F.A.C.: Florida Administrative Code

F.A.W.: Florida Administrative Weekly

f.d.: forced draft

F.S.: Florida Statutes

fgd: flue gas desulfurization

fgr: flue gas recirculation

Fl: fluoride

ft^2: square feet

ft^3: cubic feet

gpm: gallons per minute

gr: grains

HAP: hazardous air pollutant

Hg: mercury

i.d.: induced draft

ID: identification

kPa: kilopascals

lb: pound

MACT: maximum achievable technology

MMBtu: million British thermal units

MSDS: material safety data sheets

MW: megawatt

NESHAP: National Emissions Standards for Hazardous Air Pollutants

NO_X: nitrogen oxides

NSPS: New Source Performance Standards

O & M: operation and maintenance

O_2: oxygen

Pb: lead

PM: particulate matter

PM_{10}: particulate matter with a mean aerodynamic diameter of 10 microns or less

ppm: parts per million

ppmv: parts per million by volume

ppmvd: parts per million by volume, dry basis

QA: quality assurance

QC: quality control

PSD: prevention of significant deterioration

psi: pounds per square inch

PTE: potential to emit

RACT: reasonably available control technology

RATA: relative accuracy test audit

RBLC: EPA's RACT/BACT/LAER Clearinghouse

SAM: sulfuric acid mist

scf: standard cubic feet

scfm: standard cubic feet per minute

SCNR: Sarasota County Natural Resources

SIC: standard industrial classification code

SIP: State Implementation Plan

SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

SO_2: sulfur dioxide

tpd: tons/day

tph: tons per hour

tpy: tons per year

TRS: total reduced sulfur

UTM: Universal Transverse Mercator coordinate system

VE: visible emissions

VOC: volatile organic compounds

General Conditions: The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

   a. Have access to and copy any records that must be kept under conditions of the permit;

   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of noncompliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water

quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology ___;

    b. Determination of Prevention of Significant Deterioration ___;

    c. Compliance with New Source Performance Standards ___.

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        (a) The date, exact place, and time of sampling or measurements;
        (b) The person responsible for performing the sampling or measurements;
        (c) The dates analyses were performed;
        (d) The person responsible for performing the analyses;
        (e) The analytical techniques or methods used;
        (f) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

[62-4.160, F.A.C., Permit Conditions]

COMMON CONDITIONS: Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

Facility-wide *Emissions and Controls*:

1. Plant Operation - Problems: If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.070(3) and 62-4.130, F.A.C.]

2. General Pollutant Emissions Limiting Standards: (a) No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by SCNR. {Permitting note: No vapor control device was deemed necessary at the time of issuance of this permit.}; (b). No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. An objectionable odor is any odor present in the outdoor atmosphere, which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-210.200(214), and 62-296.320(1) and (2), F.A.C.]

3. General Visible Emissions Standard: Except for emission units that are subject to a particulate emission limit or opacity limit set forth in, or established by rule and reflected by conditions elsewhere in the permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the opacity of which is equal to or greater than 20%. [Rules 62-4.070(3) and 62-296.320(4)(b)1., F.A.C.]

4. Unconfined Emissions of Particulate Matter (PM): Normal "good housekeeping" procedures and reasonable work practices shall be utilized to minimize unconfined particulate matter from any source including, ***but not limited to***, material handling operations, vehicular movement, construction, alteration, demolition or wrecking, loading, unloading, storing and handling. Reasonable precautions shall include:

    a. Paving and maintenance of roads, parking areas, and yards;

    b. Application of water, or chemical dust suppressants, to control emissions from activities such as demolition of buildings, grading of roads, construction, and land clearing;

    c. Application of water, or chemical dust suppressants, to facility grounds (e.g., unpaved roads, yards, open stock piles and similar emission units) as needed;

    d. Landscaping or planting of vegetation;

    e. Using applicable control equipment (e.g., hoods, fans, filters, baghouses, cyclones, conveyor enclosures, etc.);

    f. Posting vehicle/truck speed limits so that vehicles and material handling equipment operate at slow speed to minimize emissions from traveling/working on facility grounds; and

    g. Collecting, bagging and disposing of debris as needed;

    [Rules 62-4.070(3), 62-296.320(4)(c), F.A.C.]

5. In order to ensure the visible emissions limitations are not exceeded and if the reasonable precautions identified in Specific Condition No. 4 are sufficient, visible emissions at the property line should not exceed 5% opacity. Should this opacity limit be exceeded, it will not be a violation in and of itself, but will indicate that additional control measures and/or practices beyond those outlined in Common Condition No. 4 may be necessary. [Rules 62-4.070(3), and 62-210.200(217) & (239), F.A.C.]

6. Circumvention: No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. The permittee shall not build, erect, install or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the

use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [Rules 62-210.650, and 62-210.700(4), F.A.C.]

7. Anytime the emissions unit is found to be performing inadequately because of overloading, neglect, or other reasons, the permittee shall discontinue its use until measures are provided to correct the cause of such performance. [Rule 62-4.070(3), F.A.C.]

8. Excess Emissions: The following excess emissions provisions cannot be used to vary any NESHAP requirements from any subpart of 40 CFR 61:

   a. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to, and the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by SCNR for longer duration;

   b. Excess emissions which are caused entirely or in part by inadequate maintenance/ operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited.

   [Rules 62-210.700(1) and (4), F.A.C.]

9. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

10. Modification: No emission unit or facility shall be constructed or modified without obtaining an air construction permit from SCNR in accordance with all applicable provisions of Rules 62-4, 62-210, and 62-212, F.A.C, or other applicable state, federal, or local law. Such permit must be obtained prior to the beginning of construction or modification. [40 CFR 61 Subparts C and A; Rules 62-4.030, 62-4.070(3), 62-4.080(2), 62-210.300(1), and 62-212.300(1), F.A.C.]

11. Source Obligation:

    a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    [Rule 62-212.400(12)(b) and (c), F.A.C.]

12. Emissions Computation and Reporting:

    a. Applicability. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

    b. Computation of Emissions. For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

       (1) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate

of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.

(a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.

(b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(2) Continuous Emissions Monitoring System (CEMS).

(a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:

1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or

2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.

(b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:

1) A calibrated flow meter that records data on a continuous basis, if available; or

2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

(c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

(3) Mass Balance Calculations.

(a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:

1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.

(b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using

site-specific data that another content within the range is more accurate.

(c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

(4) Emission Factors.

a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.

1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.

3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.

b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.

(5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.

(6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.

(7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

(8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rules 62-4.070(3) and 62-210.370(2), F.A.C.]

Facility-wide *Recordkeeping and Reporting Requirements*:

13. Operation and Maintenance (O & M) Plan Documentation: The permittee shall maintain an O & M plan, and records documenting the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; or any malfunction of the air pollution control equipment. The records shall be recorded in a permanent form suitable for inspection and shall be retained for at least 3 years. [Rule 62-4.070(3), F.A.C.]

14. Records Retention: The permittee shall retain at the facility records of all monitoring information (including all calibration/maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. Records shall be recorded in a permanent form suitable for inspection by SCNR, DEP, and/or EPA, and shall be available upon request. These materials shall be retained on site for a minimum of the most recent three (3) consecutive year period from the date of the sample, measurement, report, or application. [Rules 62-4.070(3) and 62-4.160(14)(b), F.A.C.]

Facility-wide *Compliance Testing Requirements*:

15. Test procedures shall meet all applicable requirements of 40 CFR 61 Subparts C and A; 40 CFR 61 Appendix B Test Methods; and Rule 62-297.310(4), F.A.C.

16. Visible Emissions (VE) Test Methods: Compliance with visible emissions limitations shall be determined using EPA Method 9, incorporated and adopted by reference in Rule 62-297.401(9)(a), F.A.C. The visible emissions test shall be conducted by a certified observer concurrently with the particulate matter performance test and be a minimum of 30 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 61 Subpart A. [Rules 62-4.070(3), 62-204.800(10), 62-297.310(4)(a), and 62-297.401, F.A.C.]

17. Particulate Test Methods: Compliance with particulate matter emissions limitations shall be determined using EPA Methods 1, 2, 3, 4, and 5 or EPA Method 17, incorporated and adopted by reference in Rule 62-297, F.A.C. The permittee shall install and maintain stack-sampling facilities (e.g., ports, work platforms, access to work platforms, electrical power, and sampling equipment support). Unless otherwise noted in this permit, the sampling time and volume for each run shall be at least 60 minutes and 25 dscf. [Rules 62-4.070(3), 62-204.800(10)(b)1., (d) & (e), 62-297, 62-297.310, and 62-297.401, F.A.C.]

18. Required Equipment: The owner or operator of an emissions unit for which a compliance test is required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C.]

19. Compliance Test Operating Rate: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]

20. Test Notification: Unless otherwise noted in this permit, the owner or operator shall notify SCNR at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a) 9, F.A.C.]

21. Test Frequency: The owner or operator of the facility shall conduct compliance testing for Beryllium in accordance with the test methods specified in 40 CFR 61.33 within each federal fiscal year (October 1 – September 30). [40 CFR 61.33; Rule 62-297.310(7)(a) 4.a., F.A.C.]

22. Special Compliance Tests: When SCNR, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to SCNR. [Rule 62-297.310(7)(b), F.A.C.]

23. Test Reports - Unless otherwise noted in this permit, all compliance test reports shall be submitted to SCNR as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures to allow SCNR to determine if the test was properly conducted and the test results properly computed. [Rules 62-4.070(3), 62-297.310(8), F.A.C.]

Federal Regulations Adopted by Reference

In accordance with Rule 62-204.800, F.A.C., the following federal regulation in Title 40 of the Code of Federal Regulations (CFR) was adopted by reference. The original federal rule numbering has been retained.

Federal Revision Date: April 28, 2009

Rule Effective Date: Anticipated for October 1, 2009

Standardized Conditions Revision Date: July 10, 2009

Subpart C—National Emission Standard for Beryllium

§ 61.30 Applicability.

The provisions of this subpart are applicable to the following stationary sources:

(a) Extraction plants, ceramic plants, foundries, incinerators, and propellant plants which process beryllium ore, beryllium, beryllium oxide, beryllium alloys, or beryllium-containing waste.

(b) Machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight.

[38 FR 8826, Apr. 6, 1973, as amended at 65 FR 62151, Oct. 17, 2000]

§ 61.31 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) *Beryllium* means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(b) *Extraction plant* means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(c) *Beryllium ore* means any naturally occurring material mined or gathered for its beryllium content.

(d) *Machine shop* means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(e) *Ceramic plant* means a manufacturing plant producing ceramic items.

(f) *Foundry* means a facility engaged in the melting or casting of beryllium metal or alloy.

(g) *Beryllium-containing waste* means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this subpart.

(h) *Incinerator* means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(i) *Propellant* means a fuel and oxidizer physically or chemically combined which undergoes combustion to provide rocket propulsion.

(j) *Beryllium alloy* means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(k) *Propellant plant* means any facility engaged in the mixing, casting, or machining of propellant.

§ 61.32 Emission standard.

(a) Emissions to the atmosphere from stationary sources subject to the provisions of this subpart shall not exceed 10 grams (0.022 lb) of beryllium over a 24-hour period, except as provided in paragraph (b) of this section.

(b) Rather than meet the requirement of paragraph (a) of this section, an owner or operator may request approval from the Administrator to meet an ambient concentration limit on beryllium in the vicinity of the stationary source of 0.01 $\mu g/m^3$ ($4.37\times10^{-6} gr/ft^3$), averaged over a 30-day period.

(1) Approval of such requests may be granted by the Administrator provided that:

(i) At least 3 years of data is available which in the judgment of the Administrator demonstrates that the future ambient concentrations of beryllium in the vicinity of the stationary source will not exceed 0.01 $\mu g/m^3$ ($4.37\times10^{-6} gr/ft^3$), averaged over a 30-day period. Such 3-year period shall be the 3 years ending 30 days before the effective date of this standard.

(ii) The owner or operator requests such approval in writing within 30 days after the effective date of this standard.

(iii) The owner or operator submits a report to the Administrator within 45 days after the effective date of this standard which report includes the following information:

(*a*) Description of sampling method including the method and frequency of calibration.

(*b*) Method of sample analysis.

(*c*) Averaging technique for determining 30-day average concentrations.

(*d*) Number, identity, and location (address, coordinates, or distance and heading from plant) of sampling sites.

(*e*) Ground elevations and height above ground of sampling inlets.

(*f*) Plant and sampling area plots showing emission points and sampling sites. Topographic features significantly affecting dispersion including plant building heights and locations shall be included.

(*g*) Information necessary for estimating dispersion including stack height, inside diameter, exit gas temperature, exit velocity or flow rate, and beryllium concentration.

(*h*) A description of data and procedures (methods or models) used to design the air sampling network (i.e., number and location of sampling sites).

(*i*) Air sampling data indicating beryllium concentrations in the vicinity of the stationary source for the 3-year period specified in paragraph (b)(1) of this section. This data shall be presented chronologically and include the beryllium concentration and location of each individual sample taken by the network and the corresponding 30-day average beryllium concentrations.

(2) Within 60 days after receiving such report, the Administrator will notify the owner or operator in writing whether approval is granted or denied. Prior to denying approval to comply with the provisions of paragraph

(b) of this section, the Administrator will consult with representatives of the statutory source for which the demonstration report was submitted.

(c) The burning of beryllium and/or beryllium-containing waste, except propellants, is prohibited except in incinerators, emissions from which must comply with the standard.

[38 FR 8826, Apr. 6, 1973, as amended at 65 FR 62151, Oct. 17, 2000]

§ 61.33 Stack sampling.

(a) Unless a waiver of emission testing is obtained under §61.13, each owner or operator required to comply with §61.32(a) shall test emissions from the source according to Method 104 of appendix B to this part. Method 103 of appendix B to this part is approved by the Administrator as an alternative method for sources subject to §61.32(a). The emission test shall be performed:

(1) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(2) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b) The Administrator shall be notified at least 30 days prior to an emission test so that he may at his option observe the test.

(c) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Administrator.

(d) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Administrator by a registered letter dispatched before the close of the next business day following such determination.

(e) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

[38 FR 8826, Apr. 6, 1973, as amended at 50 FR 46294, Nov. 7, 1985]

§ 61.34 Air sampling.

(a) Stationary sources subject to §61.32(b) shall locate air sampling sites in accordance with a plan approved by the Administrator. Such sites shall be located in such a manner as is calculated to detect maximum concentrations of beryllium in the ambient air.

(b) All monitoring sites shall be operated continuously except for a reasonable time allowance for instrument maintenance and calibration, for changing filters, or for replacement of equipment needing major repair.

(c) Filters shall be analyzed and concentrations calculated within 30 days after filters are collected. Records of concentrations at all sampling sites and other data needed to determine such concentrations shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 2 years.

(d) Concentrations measured at all sampling sites shall be reported to the Administrator every 30 days by a registered letter.

(e) The Administrator may at any time require changes in, or expansion of, the sampling network

Federal Regulations Adopted by Reference

Subpart A - General Provisions

§ 61.01 Lists of pollutants and applicability of Part 61.

(a) The following list presents the substances that, pursuant to section 112 of the Act, have been designated as hazardous air pollutants. The Federal Register citations and dates refer to the publication in which the listing decision was originally published.

Asbestos (36 FR 5931; Mar. 31, 1971)

Benzene (42 FR 29332; June 8, 1977)

Beryllium (36 FR 5931; Mar. 31, 1971)

Coke Oven Emissions (49 FR 36560; Sept. 18, 1984)

Inorganic Arsenic (45 FR 37886; June 5, 1980)

Mercury (36 FR 5931; Mar. 31, 1971)

Radionuclides (44 FR 76738; Dec. 27, 1979)

Vinyl Chloride (40 FR 59532; Dec. 24, 1975)

(b) The following list presents other substances for which a Federal Register notice has been published that included consideration of the serious health effects, including cancer, from ambient air exposure to the substance.

Acrylonitrile (50 FR 24319; June 10, 1985)

1,3-Butadiene (50 FR 41466; Oct. 10, 1985)

Cadmium (50 FR 42000; Oct. 16, 1985)

Carbon Tetrachloride (50 FR 32621; Aug. 13, 1985)

Chlorinated Benzenes (50 FR 32628; Aug. 13, 1985)

Chlorofluorocarbon—113 (50 FR 24313; June 10, 1985)

Chloroform (50 FR 39626; Sept. 27, 1985)

Chloroprene (50 FR 39632; Sept. 27, 1985)

Chromium (50 FR 24317; June 10, 1985)

Copper (52 FR 5496; Feb. 23, 1987)

Epichlorohydrin (50 FR 24575; June 11, 1985)

Ethylene Dichloride (50 FR 41994; Oct. 16, 1985)

Ethylene Oxide (50 FR 40286; Oct. 2, 1985)

Hexachlorocyclopentadiene (50 FR 40154; Oct. 1, 1985)

Manganese (50 FR 32627; Aug. 13, 1985)

Methyl Chloroform (50 FR 24314; June 10, 1985)

Methylene Chloride (50 FR 42037; Oct. 17, 1985)

Nickel (51 FR 34135; Sept. 25, 1986)

Perchloroethylene (50 FR 52800; Dec. 26, 1985)

Phenol (51 FR 22854; June 23, 1986)

Polycyclic Organic Matter (49 FR 31680; Aug. 8, 1984)

Toluene (49 FR 22195; May 25, 1984)

Trichloroethylene (50 FR 52422; Dec. 23, 1985)

Vinylidene Chloride (50 FR 32632; Aug. 13, 1985)

Zinc and Zinc Oxide (52 FR 32597, Aug. 28, 1987)

(c) This part applies to the owner or operator of any stationary source for which a standard is prescribed under this part.

(d) In addition to complying with the provisions of this part, the owner or operator of a stationary source subject to a standard in this part may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter.

[50 FR 46290, Nov. 7, 1985, as amended at 51 FR 7715 and 7719, Mar. 5, 1986; 51 FR 11022, Apr. 1, 1986; 52 FR 37617, Oct. 8, 1987; 59 FR 12429, Mar. 16, 1994]

§ 61.02 Definitions.

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 *et seq.*).

Administrator means the Administrator of the Environmental Protection Agency or his authorized representative.

Alternative method means any method of sampling and analyzing for an air pollutant which is not a reference method but which has been demonstrated to the Administrator's satisfaction to produce results adequate for the Administrator's determination of compliance.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Capital expenditure means an expenditure for a physical or operational change to a stationary source which exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the stationary source's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to a stationary source must not be reduced by any "excluded additions" as defined for stationary sources constructed after December 31, 1981, in IRS Publication 534, as would be done for tax purposes. In addition, "annual asset guideline repair allowance" may be used even though it is excluded for tax purposes in IRS Publication 534.

Commenced means, with respect to the definition of "new source" in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Compliance schedule means the date or dates by which a source or category of sources is required to comply with the standards of this part and with any steps toward such compliance which are set forth in a waiver of compliance under §61.11.

Construction means fabrication, erection, or installation of an affected facility.

Effective date is the date of promulgation in the Federal Register of an applicable standard or other regulation under this part.

Existing source means any stationary source which is not a new source.

Force majeure means, for purposes of §61.13, an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Monitoring system means any system, required under the monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a record of emissions or process parameters.

New source means any stationary source, the construction or modification of which is commenced after the publication in the Federal Register of proposed national emission standards for hazardous air pollutants which will be applicable to such source.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter.

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Reference method means any method of sampling and analyzing for an air pollutant, as described in appendix B to this part.

Run means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Standard means a national emission standard including a design, equipment, work practice or operational standard for a hazardous air pollutant proposed or promulgated under this part.

Startup means the setting in operation of a stationary source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part; and/or

(2) The permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant which has been designated as hazardous by the Administrator.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

[44 FR 55174, Sept. 25, 1979, as amended at 50 FR 46290, Nov. 7, 1985; 59 FR 12429, Mar. 16, 1994; 72 FR 27442, May 16, 2007]

§ 61.03 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) System International (SI) units of measure:

A=ampere

g=gram

Hz=hertz

J=joule

K=degree Kelvin

kg=kilogram

m=meter

m^2 =square meter

m^3 =cubic meter

mg=milligram=10^{-3}gram

mm=millimeter=10^{-3}meter

Mg=megagram=10^6 gram

mol=mole

N=Newton

ng=nanogram=10^{-9}gram

nm=nanometer=10^{-9}meter

Pa=pascal

s=second

V=volt

W=watt

Ω=ohm

μg=microgram=10^{-6}gram

(b) Other units of measure:

°C=degree Celsius (centigrade)

cfm=cubic feet per minute

cc=cubic centimeter

Ci=curie

d=day

°F=degree Fahrenheit

ft^2 =square feet

ft^3 =cubic feet

gal=gallon

in=inch

in Hg=inches of mercury

in H_2O=inches of water

l=liter

lb=pound

lpm=liter per minute

min=minute

ml=milliliter=10^{-3}liter

mrem=millirem=10^{-3}rem

oz=ounces

pCi=picocurie=10^{-12}curie

psig=pounds per square inch gage

°R=degree Rankine

µl=microliter=10^{-6}liter

v/v=volume per volume

yd^2 =square yards

yr=year

(c) Chemical nomenclature:

Be=beryllium

Hg=mercury

H_2O=water

(d) Miscellaneous:

act=actual

avg=average

I.D.=inside diameter

M=molar

N=normal

O.D.=outside diameter

%=percent

std=standard

[42 FR 51574, Sept. 29, 1977, as amended at 54 FR 51704, Dec. 15, 1989]

§ 61.04 Address.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the appropriate Regional Office of the U.S. Environmental Protection Agency to the attention of the Director of the Division indicated in the following list of EPA Regional Offices.

Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air and Waste Management Division, U.S. Environmental Protection Agency, 345 Courtland Street, NE., Atlanta, GA 30365.

(b) Section 112(d) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce national emission standards for hazardous air pollutants for stationary sources located in such State. If the authority to implement and enforce a standard under this part has been delegated to a State, all information required to be submitted to EPA under paragraph (a) of this section shall also be submitted to the appropriate State agency (provided, that each specific delegation may exempt sources from a certain Federal or State reporting requirement). The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to EPA and the State agency. If acceptable to both the Administrator and the owner or operator of a source, notifications and reports may be submitted on electronic media. The appropriate mailing address for those States whose delegation request has been approved is as follows:

(A) [Reserved]

(K) State of Florida: Florida Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, MS 5500, Tallahassee, Florida 32399–2400.

§ 61.05 Prohibited activities.

(a) After the effective date of any standard, no owner or operator shall construct or modify any stationary source subject to that standard without first obtaining written approval from the Administrator in accordance with this subpart, except under an exemption granted by the President under section 112(c)(2) of the Act. Sources, the construction or modification of which commenced after the publication date of the standards proposed to be applicable to the sources, are subject to this prohibition.

(b) After the effective date of any standard, no owner or operator shall operate a new stationary source subject to that standard in violation of the standard, except under an exemption granted by the President under section 112(c)(2) of the Act.

(c) Ninety days after the effective date of any standard, no owner or operator shall operate any existing source subject to that standard in violation of the standard, except under a waiver granted by the Administrator under this part or under an exemption granted by the President under section 112(c)(2) of the Act.

(d) No owner or operator subject to the provisions of this part shall fail to report, revise reports, or report source test results as required under this part.

[38 FR 8826, Apr. 6, 1973, as amended at 50 FR 46291, Nov. 7, 1985]

§ 61.06 Determination of construction or modification.

An owner or operator may submit to the Administrator a written application for a determination of whether actions intended to be taken by the owner or operator constitute construction or modification, or commencement thereof, of a source subject to a standard. The Administrator will notify the owner or operator of his determination within 30 days after receiving sufficient information to evaluate the application.

[50 FR 46291, Nov. 7, 1985]

§ 61.07 Application for approval of construction or modification.

(a) The owner or operator shall submit to the Administrator an application for approval of the construction of any new source or modification of any existing source. The application shall be submitted before the construction or modification is planned to commence, or within 30 days after the effective date if the construction or modification had commenced before the effective date and initial startup has not occurred. A separate application shall be submitted for each stationary source.

(b) Each application for approval of construction shall include—

(1) The name and address of the applicant;

(2) The location or proposed location of the source; and

(3) Technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including a description of any equipment to be used for control of emissions. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(c) Each application for approval of modification shall include, in addition to the information required in paragraph (b) of this section—

(1) The precise nature of the proposed changes;

(2) The productive capacity of the source before and after the changes are completed; and

(3) Calculations of estimates of emissions before and after the changes are completed, in sufficient detail to permit assessment of the validity of the calculations.

[50 FR 46291, Nov. 7, 1985]

§ 61.08 Approval of construction or modification.

(a) The Administrator will notify the owner or operator of approval or intention to deny approval of construction or modification within 60 days after receipt of sufficient information to evaluate an application under §61.07.

(b) If the Administrator determines that a stationary source for which an application under §61.07 was submitted will not cause emissions in violation of a standard if properly operated, the Administrator will approve the construction or modification.

(c) Before denying any application for approval of construction or modification, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with—

(1) Notice of the information and findings on which the intended denial is based; and

(2) Notice of opportunity for the applicant to present, within such time limit as the Administrator shall specify, additional information or arguments to the Administrator before final action on the application.

(d) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 days of presentation of additional information or arguments, or 60 days after the final date specified for presentation if no presentation is made.

(e) Neither the submission of an application for approval nor the Administrator's approval of construction or modification shall—

(1) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or of any other applicable Federal, State, or local requirement; or

(2) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

[50 FR 46291, Nov. 7, 1985]

§ 61.09 Notification of startup.

(a) The owner or operator of each stationary source which has an initial startup after the effective date of a standard shall furnish the Administrator with written notification as follows:

(1) A notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date.

(2) A notification of the actual date of initial startup of the source within 15 days after that date.

(b) If any State or local agency requires a notice which contains all the information required in the notification in paragraph (a) of this section, sending the Administrator a copy of that notification will satisfy paragraph (a) of this section.

[50 FR 46291, Nov. 7, 1985]

§ 61.10 Source reporting and waiver request.

(a) The owner or operator of each existing source or each new source which had an initial startup before the effective date shall provide the following information in writing to the Administrator within 90 days after the effective date:

(1) Name and address of the owner or operator.

(2) The location of the source.

(3) The type of hazardous pollutants emitted by the stationary source.

(4) A brief description of the nature, size, design, and method of operation of the stationary source including the operating design capacity of the source. Identify each point of emission for each hazardous pollutant.

(5) The average weight per month of the hazardous materials being processed by the source, over the last 12 months preceding the date of the report.

(6) A description of the existing control equipment for each emission point including—

(i) Each control device for each hazardous pollutant; and

(ii) Estimated control efficiency (percent) for each control device.

(7) A statement by the owner or operator of the source as to whether the source can comply with the standards within 90 days after the effective date.

(b) The owner or operator of an existing source unable to comply with an applicable standard may request a waiver of compliance with that standard for a period not exceeding 2 years after the effective date. Any request shall be in writing and shall include the following information:

(1) A description of the controls to be installed to comply with the standard.

(2) A compliance schedule, including the date each step toward compliance will be reached. The list shall include as a minimum the following dates:

(i) Date by which contracts for emission control systems or process changes for emission control will be awarded, or date by which orders will be issued for the purchase of component parts to accomplish emission control or process changes;

(ii) Date of initiation of onsite construction or installation of emission control equipment or process change;

(iii) Date by which onsite construction or installation of emission control equipment or process change is to be completed; and

(iv) Date by which final compliance is to be achieved.

(3) A description of interim emission control steps which will be taken during the waiver period.

(c) Any change in the information provided under paragraph (a) of this section or §61.07(b) shall be provided to the Administrator within 30 days after the change. However, if any change will result from modification of the source, §§61.07(c) and 61.08 apply.

(d) A possible format for reporting under this section is included as appendix A of this part. Advice on reporting the status of compliance may be obtained from the Administrator.

(e) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.

(f) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

(g) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or

deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (j) of this section.

(h) If an owner or operator of a stationary source in a State with delegated authority is required to submit reports under this part to the State, and if the State has an established timeline for the submission of reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the source is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (j) of this section.

(i) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 60, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the source is required to be in compliance with the applicable subpart in this part, or 1 year after the source is required to be in compliance with the applicable part 60 or part 63 standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (j) of this section.

(j) (1)

(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (j)(2) and (j)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (j)(2) and (j)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

[38 FR 8826, Apr. 6, 1973, as amended at 50 FR 46292, Nov. 7, 1985; 59 FR 12430, Mar. 16, 1994]

§ 61.11 Waiver of compliance.

(a) Based on the information provided in any request under §61.10, or other information, the Administrator may grant a waiver of compliance with a standard for a period not exceeding 2 years after the effective date of the standard.

(b) The waiver will be in writing and will—

(1) Identify the stationary source covered;

(2) Specify the termination date of the waiver;

(3) Specify dates by which steps toward compliance are to be taken; and

(4) Specify any additional conditions which the Administrator determines necessary to assure installation of the necessary controls within the waiver period and to assure protection of the health of persons during the waiver period.

(c) The Administrator may terminate the waiver at an earlier date than specified if any specification under paragraphs (b)(3) and (b)(4) of this section are not met.

(d) Before denying any request for a waiver, the Administrator will notify the owner or operator making the request of the Administrator's intention to issue the denial, together with—

(1) Notice of the information and findings on which the intended denial is based; and

(2) Notice of opportunity for the owner or operator to present, within the time limit the Administrator specifies, additional information or arguments to the Administrator before final action on the request.

(e) A final determination to deny any request for a waiver will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 60 days after presentation of additional information or argument; or within 60 days after the final date specified for the presentation if no presentation is made.

(f) The granting of a waiver under this section shall not abrogate the Administrator's authority under section 114 of the Act.

[50 FR 46292, Nov. 7, 1985]

§ 61.12 Compliance with standards and maintenance requirements.

(a) Compliance with numerical emission limits shall be determined in accordance with emission tests established in §61.13 or as otherwise specified in an individual subpart.

(b) Compliance with design, equipment, work practice or operational standards shall be determined as specified in an individual subpart.

(c) The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source.

(d)

(1) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions of a pollutant from a source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice or operational standard, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with the standard. The notice will restrict the permission to the source(s) or category(ies) of sources on which the alternative means will achieve equivalent emission reductions. The notice may condition permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under paragraph (d)(1) shall be published only after notice and an opportunity for a hearing.

(3) Any person seeking permission under this subsection shall, unless otherwise specified in the applicable subpart, submit a proposed test plan or the results of testing and monitoring, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring.

(e) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

[50 FR 46292, Nov. 7, 1985, as amended 62 FR 8328, Feb. 24, 1997]

§ 61.13 Emission tests and waiver of emission tests.

(a) Except as provided in paragraphs (a)(3), (a)(4), (a)(5), and (a)(6) of this section, if required to do emission testing by an applicable subpart and unless a waiver of emission testing is obtained under this section, the owner or operator shall test emissions from the source:

(1) Within 90 days after the effective date, for an existing source or a new source which has an initial startup date before the effective date.

(2) Within 90 days after initial startup, for a new source which has an initial startup date after the effective date.

(3) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline specified in paragraphs (a)(1) or (a)(2) of this section or beyond a deadline established pursuant to the requirements under paragraph (b) of this section, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.

(4) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.

(5) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.

(6) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(3), (a)(4), and (a)(5) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.

(b) The Administrator may require an owner or operator to test emissions from the source at any other time when the action is authorized by section 114 of the Act.

(c) The owner or operator shall notify the Administrator of the emission test at least 30 days before the emission test to allow the Administrator the opportunity to have an observer present during the test.

(d) If required to do emission testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source shall provide emission testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to each source.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

(5) Any other facilities that the Administrator needs to safely and properly test a source.

(e) Each emission test shall be conducted under such conditions as the Administrator shall specify based on design and operational characteristics of the source.

(f) Unless otherwise specified in an applicable subpart, samples shall be analyzed and emissions determined within 30 days after each emission test has been completed. The owner or operator shall report the determinations of the emission test to the Administrator by a registered letter sent before the close of business on the 31st day following the completion of the emission test.

(g) The owner or operator shall retain at the source and make available, upon request, for inspection by the Administrator, for a minimum of 2 years, records of emission test results and other data needed to determine emissions.

(h)

(1) Emission tests shall be conducted as set forth in this section, the applicable subpart and appendix B unless the Administrator:

(i) Specifies or approves the use of a reference method with minor changes in methodology; or

(ii) Approves the use of an alternative method; or

(iii) Waives the requirement for emission testing because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the source is in compliance with the standard.

(2) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative method, he may require the use of a reference method. If the results of the reference and alternative methods do not agree, the results obtained by the reference method prevail.

(3) The owner or operator may request approval for the use of an alternative method at any time, except—

(i) For an existing source or a new source that had an initial startup before the effective date, any request for use of an alternative method during the initial emission test shall be submitted to the Administrator within 30 days after the effective date, or with the request for a waiver of compliance if one is submitted under §60.10(b); or

(ii) For a new source that has an initial startup after the effective date, any request for use of an alternative method during the initial emission test shall be submitted to the Administrator no later than with the notification of anticipated startup required under §60.09.

(i)

(1) Emission tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the standard, or the source is being operated under a waiver or compliance, or the owner or operator has requested a waiver of compliance and the Administrator is still considering that request.

(2) If application for waiver of the emission test is made, the application shall accompany the information required by §61.10 or the notification of startup required by §61.09, whichever is applicable. A possible format is contained in appendix A to this part.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later cancelling the waiver. The cancellation will be made only after notice is given to the owner or operator of the source.

[50 FR 46292, Nov. 7, 1985, as amended at 72 FR 27442, May 16, 2007]

§ 61.14 Monitoring requirements.

(a) Unless otherwise specified, this section applies to each monitoring system required under each subpart which requires monitoring.

(b) Each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence. The Administrator's determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but not be limited to, review of operating and maintenance procedures, manufacturer recommendations and specifications, and inspection of the monitoring system.

(c) When required by the applicable subpart, and at any other time the Administrator may require, the owner or operator of a source being monitored shall conduct a performance evaluation of the monitoring system and furnish the Administrator with a copy of a written report of the results within 60 days of the evaluation. Such a performance evaluation shall be conducted according to the applicable specifications and procedures described in the applicable subpart. The owner or operator of the source shall furnish the Administrator with written notification of the date of the performance evaluation at least 30 days before the evaluation is to begin.

(d) When the effluents from a single source, or from two or more sources subject to the same emission standards, are combined before being released to the atmosphere, the owner or operator shall install a monitoring system on each effluent or on the combined effluent. If two or more sources are not subject to the same emission standards, the owner or operator shall install a separate monitoring system on each effluent, unless otherwise specified. If the applicable standard is a mass emission standard and the effluent from one source is released to the atmosphere through more than one point, the owner or operator shall install a monitoring system at each emission point unless the installation of fewer systems is approved by the Administrator.

(e) The owner or operator of each monitoring system shall reduce the monitoring data as specified in each applicable subpart. Monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average.

(f) The owner or operator shall maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. These records shall be maintained at the source for a minimum of 2 years and made available, upon request, for inspection by the Administrator.

(g)

(1) Monitoring shall be conducted as set forth in this section and the applicable subpart unless the Administrator—

(i) Specifies or approves the use of the specified monitoring requirements and procedures with minor changes in methodology; or

(ii) Approves the use of alternatives to any monitoring requirements or procedures.

(2) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, the Administrator may require the monitoring requirements and procedures specified in this part.

[50 FR 46293, Nov. 7, 1985]

§ 61.15 Modification.

(a) Except as provided under paragraph (d) of this section, any physical or operational change to a stationary source which results in an increase in the rate of emission to the atmosphere of a hazardous pollutant to which a standard applies shall be considered a modification.

(b) Upon modification, an existing source shall become a new source for each hazardous pollutant for which the rate of emission to the atmosphere increases and to which a standard applies.

(c) Emission rate shall be expressed as kg/hr of any hazardous pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine the emission rate:

(1) Emission factors as specified in the background information document (BID) for the applicable standard, or in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP–42, or other emission factors determined by the Administrator to be superior to AP–42 emission factors, in cases where use of emission factors demonstrates that the emission rate will clearly increase or clearly not increase as a result of the physical or operational change.

(2) Material balances, monitoring data, or manual emission tests in cases where use of emission factors, as referenced in paragraph (c)(1) of this section, does not demonstrate to the Administrator's satisfaction that the emission rate will clearly increase or clearly not increase as a result of the physical or operational change, or where an interested person demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator using emission factors. When the emission rate is based on results from manual emission tests or monitoring data, the procedures specified in appendix C of 40 CFR part 60 shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator. At least three test runs must be conducted before and at least three after the physical or operational change. If the Administrator approves, the results of the emission tests required in §61.13(a) may be used for the test runs to be conducted before the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum degree feasible for all test runs.

(d) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category.

(2) An increase in production rate of a stationary source, if that increase can be accomplished without a capital expenditure on the stationary source.

(3) An increase in the hours of operation.

(4) Any conversion to coal that meets the requirements specified in section 111(a)(8) of the Act.

(5) The relocation or change in ownership of a stationary source. However, such activities must be reported in accordance with §61.10(c).

[50 FR 46294, Nov. 7, 1985]

§ 61.16 Availability of information.

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter.

[38 FR 8826, Apr. 6, 1973. Redesignated at 50 FR 46294, Nov. 7, 1985]

§ 61.17 State authority.

(a) This part shall not be construed to preclude any State or political subdivision thereof from—

(1) Adopting and enforcing any emission limiting regulation applicable to a stationary source, provided that such emission limiting regulation is not less stringent than the standards prescribed under this part; or

(2) Requiring the owner or operator of a stationary source to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of the source.

[50 FR 46294, Nov. 7, 1985]

§ 61.18 Incorporations by reference.

The materials listed below are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and a notice of any change in these materials will be published in the Federal Register. The materials are available for inspection at the corresponding address noted below, and at U.S. EPA's Air Docket at 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(a) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM) International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA, 19428–2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D737–75, Standard Test Method for Air Permeability of Textile Fabrics, incorporation by reference (IBR) approved January 27, 1983 for §61.23(a).

(2) ASTM D835–85, Standard Specification for Refined Benzene-485, IBR approved September 14, 1989 for §61.270(a).

(3) ASTM D836–84, Standard Specification for Industrial Grade Benzene, IBR approved September 14, 1989 for §61.270(a).

(4) ASTM D1193–77, 91, Standard Specification for Reagent Water, IBR approved for appendix B: Method 101, Section 7.1.1; Method 101A, Section 7.1.1; and Method 104, Section 7.1; Method 108, Section 7.1.3;

Method 108A, Section 7.1.1; Method 108B, Section 7.1.1; Method 108C, Section 7.1.1; and Method 111, Section 7.3.

(5) ASTM D2267–68, 78, 88, Standard Test Method for Aromatics in Light Naphthas and Aviation Gasoline by Gas Chromatography, IBR approved September 30, 1986, for §61.67(h)(1).

(6) ASTM D2359–85a, 93, Standard Specification for Refined Benzene-535, IBR approved September 14, 1989 for §61.270(a).

(7) ASTM D2382–76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved June 6, 1984 for §61.245(e)(3).

(8) ASTM D2504–67, 77, 88 (Reapproved 1993), Noncondensable Gases in $C_3$and Lighter Hydrocarbon Products by Gas Chromatography, IBR approved June 6, 1984 for §61.245(e)(3).

(9) ASTM D2879–83, Standard Test Method for Vapor Pressure—Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved December 14, 2000 for §61.241.

(10) ASTM D2986–71, 78, 95a, Standard Method for Evaluation of Air, Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test, IBR approved for appendix B: Method 103, Section 6.1.3.

(11) ASTM D4420–94, Standard Test Method for Determination of Aromatics in Finished Gasoline by Gas Chromatography, IBR approved for §61.67(h)(1).

(12) ASTM D4734–87, 96, Standard Specification for Refined Benzene-545, IBR approved September 14, 1989 for §61.270(a).

(13) ASTM D4809–95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for §61.245(e)(3).

(14) ASTM E50–82, 86, 90 (Reapproved 1995), Standard Practices for Apparatus Reagents, and Safety Precautions for Chemical Analysis of Metals, IBR approved for appendix B: Method 108C, Section 6.1.4.

(b) The following material is available from the U.S. EPA Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

(1) Method 601, Test Method for Purgeable Halocarbons, July 1982, IBR approved September 30, 1986, for §61.67(g)(2).

(c) The following material is available for purchase from the American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, New York 10036.

(1) ANSI N13.1–1969, "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities." IBR approved for 61.93(b)(2)(ii) and 61.107(b)(2)(ii).

(2) ANSI/HPS N13.1–1999 "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities," IBR approved October 9, 2002, for §§61.93(c); 61.107(d) and Method 114, paragraph 2.1 of Appendix B to 40 CFR **Part 61.**

(d) The following material is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402–9325, telephone (202) 512–1800 or outside of Washington, DC area: 1–866–512–1800.

(1) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW–846, Third Edition, November 1986, as amended by Revision I, December 1987, Order Number 955–001–00000–1:

(i) Method 8020, Aromatic Volatile Organics, IBR approved March 7, 1990, for §61.355(c)(2)(iv)(A).

(ii) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series, IBR approved March 7, 1990, for §61.355(c)(2)(iv)(B).

(iii) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, IBR approved March 7, 1990, for §61.355(c)(2)(iv)(C).

(iv) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique, IBR approved March 7, 1990, for §61.355(c)(2)(iv)(D).

(e) The materials listed in this paragraph (e) are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition. February 1989. IBR approved December 14, 2000 for §61.241.

(2) [Reserved]

[48 FR 3740, Jan. 27, 1983, as amended at 48 FR 55266, Dec. 9, 1983; 49 FR 23520, June 6, 1984; 51 FR 34914, Sept. 30, 1986; 54 FR 38073, Sept. 14, 1989; 54 FR 51704, Dec. 15, 1989; 55 FR 8341, Mar. 7, 1990; 55 FR 18331, May 2, 1990; 55 FR 22027, May 31, 1990; 55 FR 32914, Aug. 13, 1990; 65 FR 62150, Oct. 17, 2000; 65 FR 78280, Dec. 14, 2000; 67 FR 57166, Sept. 9, 2002; 69 FR 18803, Apr. 9, 2004]

§ 61.19 Circumvention.

No owner or operator shall build, erect, install, or use any article machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

[40 FR 48299, Oct. 14, 1975. Redesignated at 50 FR 46294, Nov. 7, 1985]

Title 40: Protection of Environment
PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

APPENDIX B TO PART 61—TEST METHODS

Method 103—Beryllium screening method

Method 104—Determination of beryllium emissions from stationary sources

Method 103—Beryllium Screening Method

1.0 Scope and Application

1.1 Analytes.

Analyte	CAS No.	Sensitivity
Beryllium (Be)	7440–41–7	Dependent upon analytical procedure used.

1.2 Applicability. This procedure details guidelines and requirements for methods acceptable for use in determining Be emissions in ducts or stacks at stationary sources.

1.3 Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method

2.1 Particulate Be emissions are withdrawn isokinetically from three points in a duct or stack and are collected on a filter. The collected sample is analyzed for Be using an appropriate technique.

3.0 Definitions.[Reserved]

4.0 Interferences.[Reserved]

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method.

5.2 Hydrochloric Acid (HCl). Highly corrosive and toxic. Vapors are highly irritating to eyes, skin, nose, and lungs, causing severe damage. May cause bronchitis, pneumonia, or edema of lungs. Exposure to concentrations of 0.13 to 0.2 percent can be lethal to humans in a few minutes. Provide ventilation to limit exposure. Reacts with metals, producing hydrogen gas. Personal protective equipment and safe procedures are useful in preventing chemical splashes. If contact occurs, immediately flush with copious amounts of water at least 15 minutes. Remove clothing under shower and decontaminate. Treat residual chemical burn as thermal burn.

6.0 Equipment and Supplies

6.1 Sample Collection. A schematic of the required sampling train configuration is shown in Figure 103–1 in Section 17.0. The essential components of the train are as follows:

6.1.1 Nozzle. Stainless steel, or equivalent, with sharp, tapered leading edge.

6.1.2 Probe. Sheathed borosilicate or quartz glass tubing.

6.1.3 Filter. Millipore AA, or equivalent, with appropriate filter holder that provides a positive seal against leakage from outside or around the filter. It is suggested that a Whatman 41, or equivalent, be placed immediately against the back side of the Millipore filter as a guard against breakage of the Millipore. Include the backup filter in the analysis. To be equivalent, other filters shall exhibit at least 99.95 percent efficiency (0.05 percent penetration) on 0.3 micron dioctyl phthalate smoke particles, and be amenable to the Be analysis procedure. The filter efficiency tests shall be conducted in accordance with ASTM D 2986–71, 78, 95a (incorporated by reference—see §61.18). Test data from the supplier's quality control program are sufficient for this purpose.

6.1.4 Meter-Pump System. Any system that will maintain isokinetic sampling rate, determine sample volume, and is capable of a sampling rate of greater than 14 lpm (0.5 cfm).

6.2 Measurement of Stack Conditions. The following equipment is used to measure stack conditions:

6.2.1 Pitot Tube. Type S, or equivalent, with a constant coefficient (±5 percent) over the working range.

6.2.2 Inclined Manometer, or Equivalent. To measure velocity head to ±10 percent of the minimum value.

6.2.3 Temperature Measuring Device. To measure stack temperature to ±1.5 percent of the minimum absolute stack temperature.

6.2.4 Pressure Measuring Device. To measure stack pressure to ±2.5 mm Hg (0.1 in. Hg).

6.2.5 Barometer. To measure atmospheric pressure to ±2.5 mm Hg (0.1 in. Hg).

6.2.6 Wet and Dry Bulb Thermometers, Drying Tubes, Condensers, or Equivalent. To determine stack gas moisture content to ±1 percent.

6.3 Sample Recovery.

6.3.1 Probe Cleaning Equipment. Probe brush or cleaning rod at least as long as probe, or equivalent. Clean cotton balls, or equivalent, should be used with the rod.

6.3.2 Leakless Glass Sample Bottles. To contain sample.

6.4 Analysis. All equipment necessary to perform an atomic absorption, spectrographic, fluorometric, chromatographic, or equivalent analysis.

7.0 Reagents and Standards

7.1 Sample Recovery.

7.1.1 Water. Deionized distilled, to conform to ASTM D 1193–77, 91 (incorporated by reference—see §61.18), Type 3.

7.1.2 Acetone. Reagent grade.

7.1.3 Wash Acid, 50 Percent (V/V) Hydrochloric Acid (HCl). Mix equal volumes of concentrated HCl and water, being careful to add the acid slowly to the water.

7.2 Analysis. Reagents and standards as necessary for the selected analytical procedure.

8.0 Sample Collection, Preservation, Transport, and Storage

Guidelines for source testing are detailed in the following sections. These guidelines are generally applicable; however, most sample sites differ to some degree and temporary alterations such as stack extensions or expansions often are required to insure the best possible sample site. Further, since Be is hazardous, care should be taken to minimize exposure. Finally, since the total quantity of Be to be collected is quite small, the test must be carefully conducted to prevent contamination or loss of sample.

8.1 Selection of a Sampling Site and Number of Sample Runs. Select a suitable sample site that is as close as practicable to the point of atmospheric emission. If possible, stacks smaller than one foot in diameter should not be sampled.

8.1.1 Ideal Sampling Site. The ideal sampling site is at least eight stack or duct diameters downstream and two diameters upstream from any flow disturbance such as a bend, expansion or contraction. For rectangular cross sections, use Equation 103–1 in Section 12.2 to determine an equivalent diameter, D_e.

8.1.2 Alternate Sampling Site. Some sampling situations may render the above sampling site criteria impractical. In such cases, select an alternate site no less than two diameters downstream and one-half diameter upstream from any point of flow disturbance. Additional sample runs are recommended at any sample site not meeting the criteria of Section 8.1.1.

8.1.3 Number of Sample Runs Per Test. Three sample runs constitute a test. Conduct each run at one of three different points. Select three points that proportionately divide the diameter, or are located at 25, 50, and 75 percent of the diameter from the inside wall. For horizontal ducts, sample on a vertical line through the centroid. For rectangular ducts, sample on a line through the centroid and parallel to a side. If additional sample runs are performed per Section 8.1.2, proportionately divide the duct to accommodate the total number of runs.

8.2 Measurement of Stack Conditions. Using the equipment described in Section 6.2, measure the stack gas pressure, moisture, and temperature to determine the molecular weight of the stack gas. Sound engineering estimates may be made in lieu of direct measurements. Describe the basis for such estimates in the test report.

8.3 Preparation of Sampling Train.

8.3.1 Assemble the sampling train as shown in Figure 103–1. It is recommended that all glassware be precleaned by soaking in wash acid for two hours.

8.3.2 Leak check the sampling train at the sampling site. The leakage rate should not be in excess of 1 percent of the desired sample rate.

8.4 Sampling Train Operation.

8.4.1 For each run, measure the velocity at the selected sampling point. Determine the isokinetic sampling rate. Record the velocity head and the required sampling rate. Place the nozzle at the sampling point with the tip pointing directly into the gas stream. Immediately start the pump and adjust the flow to isokinetic conditions. At the conclusion of the test, record the sampling rate. Again measure the velocity head at the sampling point. The required isokinetic rate at the end of the period should not have deviated more than 20 percent from that originally calculated. Describe the reason for any deviation beyond 20 percent in the test report.

8.4.2 Sample at a minimum rate of 14 liters/min (0.5 cfm). Obtain samples over such a period or periods of time as are necessary to determine the maximum emissions which would occur in a 24-hour period. In the case of cyclic operations, perform sufficient sample runs so as to allow determination or calculation of the emissions that occur over the duration of the cycle. A minimum sampling time of two hours per run is recommended.

8.5 Sample Recovery.

8.5.1 It is recommended that all glassware be precleaned as in Section 8.3. Sample recovery should also be performed in an area free of possible Be contamination. When the sampling train is moved, exercise care to prevent breakage and contamination. Set aside a portion of the acetone used in the sample recovery as a blank for analysis. The total amount of acetone used should be measured for accurate blank correction. Blanks can be eliminated if prior analysis shows negligible amounts.

8.5.2 Remove the filter (and backup filter, if used) and any loose particulate matter from filter holder, and place in a container.

8.5.3 Clean the probe with acetone and a brush or long rod and cotton balls. Wash into the container with the filter. Wash out the filter holder with acetone, and add to the same container.

9.0 Quality Control.[Reserved]

10.0 Calibration and Standardization

10.1 Sampling Train. As a procedural check, compare the sampling rate regulation with a dry gas meter, spirometer, rotameter (calibrated for prevailing atmospheric conditions), or equivalent, attached to the nozzle inlet of the complete sampling train.

10.2 Analysis. Perform the analysis standardization as suggested by the manufacturer of the instrument, or the procedures for the analytical method in use.

11.0 Analytical Procedure

Make the necessary preparation of samples and analyze for Be. Any currently acceptable method (e.g., atomic absorption, spectrographic, fluorometric, chromatographic) may be used.

12.0 Data Analysis and Calculations

12.1 Nomenclature.

A_s(avg) = Stack area, m^2 (ft^2).

L = Length.

R = Be emission rate, g/day.

V_s(avg) = Average stack gas velocity, m/sec (ft/sec).

V_{total}= Total volume of gas sampled, m^3 (ft^3).

W = Width.

W_t= Total weight of Be collected, mg.

10^{-6}= Conversion factor, g/µg.

86,400 = Conversion factor, sec/day.

12.2 Calculate the equivalent diameter, De, for a rectangular cross section as follows:

$$D_e = \frac{2 \cdot L \cdot W}{L + W} \qquad \text{Eq. 103-1}$$

12.3 Calculate the Be emission rate, R, in g/day for each stack using Equation 103–2. For cyclic operations, use only the time per day each stack is in operation. The total Be emission rate from a source is the summation of results from all stacks.

$$R = \frac{W_t V_{s(avg)} A_s (86,400)(10^{-6})}{V_{total}} \qquad \text{Eq. 103-2}$$

12.4 Test Report. Prepare a test report that includes as a minimum: A detailed description of the sampling train used, results of the procedural check described in Section 10.1 with all data and calculations made, all pertinent data taken during the test, the basis for any estimates made, isokinetic sampling calculations, and emission results. Include a description of the test site, with a block diagram and brief description of the process, location of the sample points in the stack cross section, and stack dimensions and distances from any point of disturbance.

13.0 Method Performance.[Reserved]

14.0 Pollution Prevention.[Reserved]

15.0 Waste Management.[Reserved]

16.0 References.[Reserved]

17.0 Tables, Diagrams, Flow Charts, and Validation Data

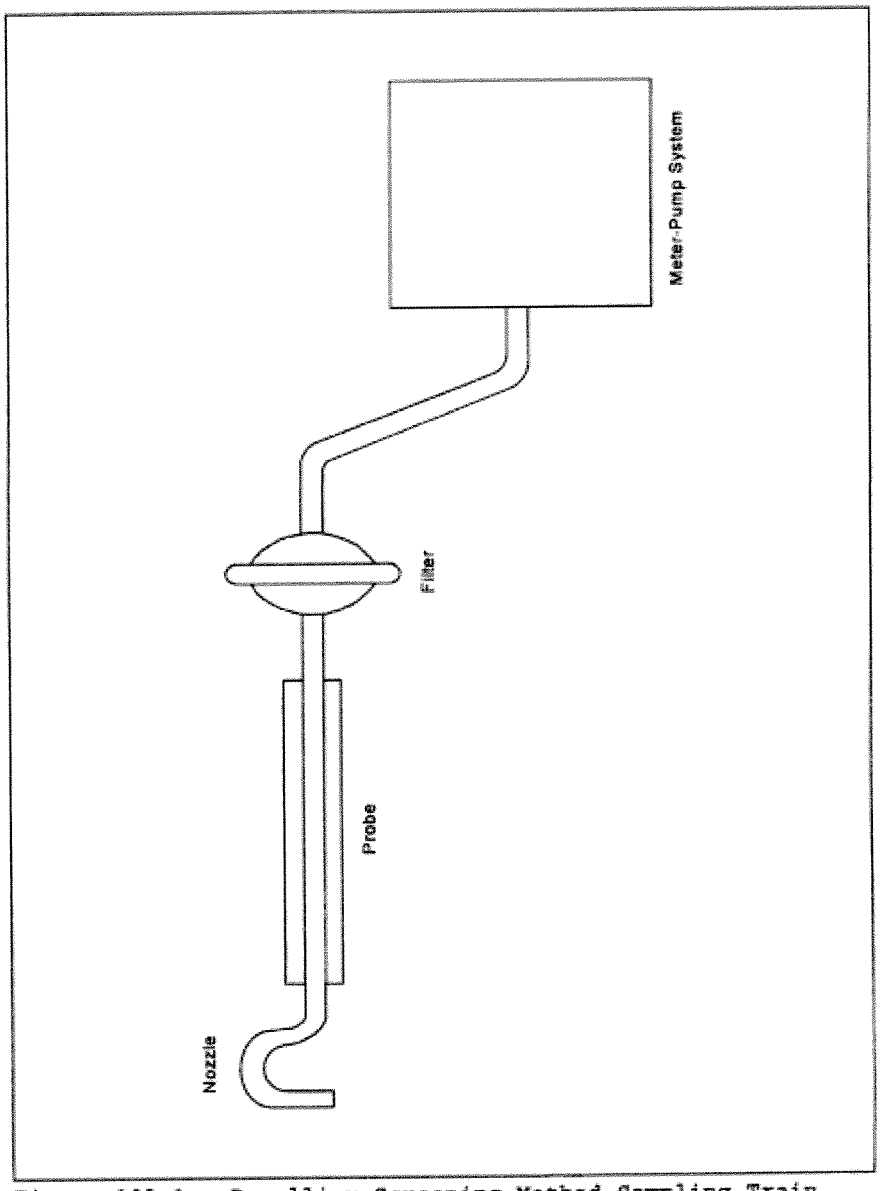

Figure 103-1. Beryllium Screening Method Sampling Train Schematic.

Method 104—Determination of Beryllium Emissions From Stationary Sources

Note: This method does not include all of the specifications (*e.g.,* equipment and supplies) and procedures (*e.g.,* sampling and analytical) essential to its performance. Some material is incorporated by reference from methods in appendix A to 40 CFR part 60. Therefore, to obtain reliable results, persons using this method should have a thorough knowledge of at least the following additional test methods: Method 1, Method 2, Method 3, and Method 5 in appendix A, part 60.

1.0 Scope and Application

1.1 Analytes.

Analyte	CAS No.	Sensitivity
Beryllium (Be)	7440–41–7	Dependent upon recorder and spectrophotometer.

1.2 Applicability. This method is applicable for the determination of Be emissions in ducts or stacks at stationary sources. Unless otherwise specified, this method is not intended to apply to gas streams other than those emitted directly to the atmosphere without further processing.

1.3 Data Quality Objectives. Adherences to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method

2.1 Particulate and gaseous Be emissions are withdrawn isokinetically from the source and are collected on a glass fiber filter and in water. The collected sample is digested in an acid solution and is analyzed by atomic absorption spectrophotometry.

3.0 Definitions[Reserved]

4.0 Interferences

4.1 Matrix Effects. Analysis for Be by flame atomic absorption spectrophotometry is sensitive to the chemical composition and to the physical properties (*e.g.,* viscosity, pH) of the sample. Aluminum and silicon in particular are known to interfere when present in appreciable quantities. The analytical procedure includes (optionally) the use of the Method of Standard Additions to check for these matrix effects, and sample analysis using the Method of Standard Additions if significant matrix effects are found to be present (see Reference 2 in Section 16.0).

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method.

5.2 Corrosive reagents. The following reagents are hazardous. Personal protective equipment and safe procedures are useful in preventing chemical splashes. If contact occurs, immediately flush with copious amounts of water at least 15 minutes. Remove clothing under shower and decontaminate. Treat residual chemical burn as thermal burn.

5.2.1 Hydrochloric Acid (HC_l). Highly toxic. Vapors are highly irritating to eyes, skin, nose, and lungs, causing severe damage. May cause bronchitis, pneumonia, or edema of lungs. Exposure to concentrations of 0.13 to 0.2 percent can be lethal to humans in a few minutes. Provide ventilation to limit exposure. Reacts with metals, producing hydrogen gas.

5.2.2 Hydrogen Peroxide (H_2O_2). Irritating to eyes, skin, nose, and lungs.

5.2.3 Nitric Acid (HNO_3). Highly corrosive to eyes, skin, nose, and lungs. Vapors cause bronchitis, pneumonia, or edema of lungs. Reaction to inhalation may be delayed as long as 30 hours and still be fatal. Provide ventilation to limit exposure. Strong oxidizer. Hazardous reaction may occur with organic materials such as solvents.

5.2.4 Sodium Hydroxide (NaOH). Causes severe damage to eyes and skin. Inhalation causes irritation to nose, throat, and lungs. Reacts exothermically with limited amounts of water.

5.3 Beryllium is hazardous, and precautions should be taken to minimize exposure.

6.0 Equipment and Supplies

6.1 Sample Collection. Same as Method 5, Section 6.1, with the exception of the following:

6.1.1 Sampling Train. Same as Method 5, Section 6.1.1, with the exception of the following:

6.1.2 Probe Liner. Borosilicate or quartz glass tubing. A heating system capable of maintaining a gas temperature of 120 ±14 °C (248 ±25 °F) at the probe exit during sampling to prevent water condensation may be used.

Note: Do not use metal probe liners.

6.1.3 Filter Holder. Borosilicate glass, with a glass frit filter support and a silicone rubber gasket. Other materials of construction (*e.g.,* stainless steel, Teflon, Viton) may be used, subject to the approval of the Administrator. The holder design shall provide a positive seal against leakage from the outside or around the filter. The holder shall be attached immediately at the outlet of the probe. A heating system capable of maintaining the filter at a minimum temperature in the range of the stack temperature may be used to prevent condensation from occurring.

6.1.4 Impingers. Four Greenburg-Smith impingers connected in series with leak-free ground glass fittings or any similar leak-free noncontaminating fittings. For the first, third, and fourth impingers, use impingers that are modified by replacing the tip with a 13 mm-ID (0.5 in.) glass tube extending to 13 mm (0.5 in.) from the bottom of the flask may be used.

6.2 Sample Recovery. The following items are needed for sample recovery:

6.2.1 Probe Cleaning Rod. At least as long as probe.

6.2.2 Glass Sample Bottles. Leakless, with Teflon-lined caps, 1000 ml.

6.2.3 Petri Dishes. For filter samples, glass or polyethylene, unless otherwise specified by the Administrator.

6.2.4 Graduated Cylinder. 250 ml.

6.2.5 Funnel and Rubber Policeman. To aid in transfer of silica gel to container; not necessary if silica gel is weighed in the field.

6.2.6 Funnel. Glass, to aid in sample recovery.

6.2.7 Plastic Jar. Approximately 300 ml.

6.3 Analysis. The following items are needed for sample analysis:

6.3.1 Atomic Absorption Spectrophotometer. Perkin-Elmer 303, or equivalent, with nitrous oxide/acetylene burner.

6.3.2 Hot Plate.

6.3.3 Perchloric Acid Fume Hood.

7.0 Reagents and Standards

Note: Unless otherwise indicated, it is intended that all reagents conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available; otherwise, use the best available grade.

7.1 Sample Collection. Same as Method 5, Section 7.1, including deionized distilled water conforming to ASTM D 1193–77 or 91 (incorporated by reference—see §61.18), Type 3. The Millipore AA filter is recommended.

7.2 Sample Recovery. Same as Method 5 in appendix A, part 60, Section 7.2, with the addition of the following:

7.2.1 Wash Acid, 50 Percent (V/V) Hydrochloric Acid (HCl). Mix equal volumes of concentrated HCl and water, being careful to add the acid slowly to the water.

7.3 Sample Preparation and Analysis. The following reagents and standards and standards are needed for sample preparation and analysis:

7.3.1 Water. Same as in Section 7.1.

7.3.2. Perchloric Acid ($HClO_4$). Concentrated (70 percent V/V).

7.3.3 Nitric Acid (HNO_3). Concentrated.

7.3.4 Beryllium Powder. Minimum purity 98 percent.

7.3.5 Sulfuric Acid (H_2SO_4) Solution, 12 N. Dilute 33 ml of concentrated $H_2SO_4$to 1 liter with water.

7.3.6 Hydrochloric Acid Solution, 25 Percent HCl (V/V).

7.3.7 Stock Beryllium Standard Solution, 10 µg Be/ml. Dissolve 10.0 mg of Be in 80 ml of 12 N H_2SO_4in a 1000-ml volumetric flask. Dilute to volume with water. This solution is stable for at least one month. Equivalent strength Be stock solutions may be prepared from Be salts such as $BeCl_2$and $Be(NO_3)_2$(98 percent minimum purity).

7.3.8 Working Beryllium Standard Solution, 1 µg Be/ml. Dilute a 10 ml aliquot of the stock beryllium standard solution to 100 ml with 25 percent HCl solution to give a concentration of 1 mg/ml. Prepare this dilute stock solution fresh daily.

8.0 Sample Collection, Preservation, Transport, and Storage

The amount of Be that is collected is generally small, therefore, it is necessary to exercise particular care to prevent contamination or loss of sample.

8.1 Pretest Preparation. Same as Method 5, Section 8.1, except omit Section 8.1.3.

8.2 Preliminary Determinations. Same as Method 5, Section 8.2, with the exception of the following:

8.2.1 Select a nozzle size based on the range of velocity heads to assure that it is not necessary to change the nozzle size in order to maintain isokinetic sampling rates below 28 liters/min (1.0 cfm).

8.2.2 Obtain samples over a period or periods of time that accurately determine the maximum emissions that occur in a 24-hour period. In the case of cyclic operations, perform sufficient sample runs for the accurate determination of the emissions that occur over the duration of the cycle. A minimum sample time of 2 hours per run is recommended.

8.3 Preparation of Sampling Train. Same as Method 5, Section 8.3, with the exception of the following:

8.3.1 Prior to assembly, clean all glassware (probe, impingers, and connectors) by first soaking in wash acid for 2 hours, followed by rinsing with water.

8.3.2 Save a portion of the water for a blank analysis.

8.3.3 Procedures relating to the use of metal probe liners are not applicable.

8.3.4 Probe and filter heating systems are needed only if water condensation is a problem. If this is the case, adjust the heaters to provide a temperature at or above the stack temperature. However, membrane filters such as the Millipore AA are limited to about 107 °C (225 °F). If the stack gas is in excess of about 93 °C (200 °F), consideration should be given to an alternate procedure such as moving the filter holder downstream of the first impinger to insure that the filter does not exceed its temperature limit. After the sampling train has been assembled, turn on and set the probe heating system, if applicable, at the desired operating temperature. Allow time for the temperatures to stabilize. Place crushed ice around the impingers.

Note: An empty impinger may be inserted between the third impinger and the silica gel to remove excess moisture from the sample stream.

8.4 Leak Check Procedures, Sampling Train Operation, and Calculation of Percent Isokinetic. Same as Method 5, Sections 8.4, 8.5, and 8.6, respectively.

8.5 Sample Recovery. Same as Method 5, Section 8.7, except treat the sample as follows: Transfer the probe and impinger assembly to a cleanup area that is clean, protected from the wind, and free of Be contamination. Inspect the train before and during this assembly, and note any abnormal conditions. Treat the sample as follows: Disconnect the probe from the impinger train.

8.5.1 Container No. 1. Same as Method 5, Section 8.7.6.1.

8.5.2 Container No. 2. Place the contents (measured to 1 ml) of the first three impingers into a glass sample bottle. Use the procedures outlined in Section 8.7.6.2 of Method 5, where applicable, to rinse the probe nozzle, probe fitting, probe liner, filter holder, and all glassware between the filter holder and the back half of the third impinger with water. Repeat this procedure with acetone. Place both water and acetone rinse solutions in the sample bottle with the contents of the impingers.

8.5.3 Container No. 3. Same as Method 5, Section 8.7.6.3.

8.6 Blanks.

8.6.1 Water Blank. Save a portion of the water as a blank. Take 200 ml directly from the wash bottle being used and place it in a plastic sample container labeled "H_2O blank."

8.6.2 Filter. Save two filters from each lot of filters used in sampling. Place these filters in a container labeled "filter blank."

8.7 Post-test Glassware Rinsing. If an additional test is desired, the glassware can be carefully double rinsed with water and reassembled. However, if the glassware is out of use more than 2 days, repeat the initial acid wash procedure.

9.0 Quality Control

Section	Quality control measure	Effect
8.4, 10.1	Sampling equipment leak checks and calibration	Ensure accuracy and precision of sampling measurements.
10.2	Spectrophotometer calibration	Ensure linearity of spectrophotometer response to standards.

11.5	Check for matrix effects	Eliminate matrix effects.

10.0 Calibration and Standardization

Note: Maintain a laboratory log of all calibrations.

10.1 Sampling Equipment. Same as Method 5, Section 10.0.

10.2 Preparation of Standard Solutions. Pipet 1, 3, 5, 8, and 10 ml of the 1.0 µg Be/ml working standard solution into separate 100 ml volumetric flasks, and dilute to the mark with water. The total amounts of Be in these standards are 1, 3, 5, 8, and 10 µg, respectively.

10.3 Spectrophotometer and Recorder. The Be response may be measured by either peak height or peak area. Analyze an aliquot of the 10-µg standard at 234.8 nm using a nitrous oxide/acetylene flame. Determine the maximum absorbance of the standard, and set this value to read 90 percent of the recorder full scale.

10.4 Calibration Curve.

10.4.1 After setting the recorder scale, analyze an appropriately sized aliquot of each standard and the BLANK (see Section 11) until two consecutive peaks agree within 3 percent of their average value.

10.4.3 Subtract the average peak height (or peak area) of the blank—which must be less than 2 percent of recorder full scale—from the averaged peak heights of the standards. If the blank absorbance is greater than 2 percent of full-scale, the probable cause is Be contamination of a reagent or carry-over of Be from a previous sample. Prepare the calibration curve by plotting the corrected peak height of each standard solution versus the corresponding total Be weight in the standard (in µg).

10.5 Spectrophotometer Calibration Quality Control. Calculate the least squares slope of the calibration curve. The line must pass through the origin or through a point no further from the origin than ±2 percent of the recorder full scale. Multiply the corrected peak height by the reciprocal of the least squares slope to determine the distance each calibration point lies from the theoretical calibration line. The difference between the calculated concentration values and the actual concentrations (i.e., 1, 3, 5, 8, and 10 µg Be) must be less than 7 percent for all standards.

11.0 Analytical Procedure

11.1 Sample Loss Check. Prior to analysis, check the liquid level in Container No. 2. Note on the analytical data sheet whether leakage occurred during transport. If a noticeable amount of leakage occurred, either void the sample or take steps, subject to the approval of the Administrator, to adjust the final results.

11.2 Glassware Cleaning. Before use, clean all glassware according to the procedure of Section 8.3.1.

11.3 Sample Preparation. The digestion of Be samples is accomplished in part in concentrated $HClO_4$.

Note: The sample must be heated to light brown fumes after the initial HNO3 addition; otherwise, dangerous perchlorates may result from the subsequent $HClO_4$digestion. $HClO_4$should be used only under a hood.

11.3.1 Container No. 1. Transfer the filter and any loose particulate matter from Container No. 1 to a 150-ml beaker. Add 35 ml concentrated HNO_3. To oxidize all organic matter, heat on a hotplate until light brown fumes are evident. Cool to room temperature, and add 5 ml 12 N $H_2SO_4$and 5 ml concentrated $HClO_4$.

11.3.2 Container No. 2. Place a portion of the water and acetone sample into a 150 ml beaker, and put on a hotplate. Add portions of the remainder as evaporation proceeds and evaporate to dryness. Cool the residue, and add 35 ml

concentrated HNO_3. To oxidize all organic matter, heat on a hotplate until light brown fumes are evident. Cool to room temperature, and add 5 ml 12 N $H_2SO_4$and 5 ml concentrated $HClO_4$. Then proceed with step 11.3.4.

11.3.3 Final Sample Preparation. Add the sample from Section 11.3.2 to the 150-ml beaker from Section 11.3.1. Replace on a hotplate, and evaporate to dryness in a $HClO_4$hood. Cool the residue to room temperature, add 10.0 ml of 25 percent V/V HCl, and mix to dissolve the residue.

11.3.4 Filter and Water Blanks. Cut each filter into strips, and treat each filter individually as directed in Section 11.3.1. Treat the 200-ml water blank as directed in Section 11.3.2. Combine and treat these blanks as directed in Section 11.3.3.

11.4 Spectrophotometer Preparation. Turn on the power; set the wavelength, slit width, and lamp current; and adjust the background corrector as instructed by the manufacturer's manual for the particular atomic absorption spectrophotometer. Adjust the burner and flame characteristics as necessary.

11.5 Analysis. Calibrate the analytical equipment and develop a calibration curve as outlined in Sections 10.4 and 10.5.

11.5.1 Beryllium Samples. Repeat the procedure used to establish the calibration curve with an appropriately sized aliquot of each sample (from Section 11.3.3) until two consecutive peak heights agree within 3 percent of their average value. The peak height of each sample must be greater than 10 percent of the recorder full scale. If the peak height of the sample is off scale on the recorder, further dilute the original source sample to bring the Be concentration into the calibration range of the spectrophotometer.

11.5.2 Run a blank and standard at least after every five samples to check the spectrophotometer calibration. The peak height of the blank must pass through a point no further from the origin than ±2 percent of the recorder full scale. The difference between the measured concentration of the standard (the product of the corrected peak height and the reciprocal of the least squares slope) and the actual concentration of the standard must be less than 7 percent, or recalibration of the analyzer is required.

11.5.3 Check for Matrix Effects (optional). Use the Method of Standard Additions (see Reference 2 in Section 16.0) to check at least one sample from each source for matrix effects on the Be results. If the results of the Method of Standard Additions procedure used on the single source sample do not agree to within 5 percent of the value obtained by the routine atomic absorption analysis, then reanalyze all samples from the source using the Method of Standard Additions procedure.

11.6 Container No. 2 (Silica Gel). Weigh the spent silica gel (or silica gel plus impinger) to the nearest 0.5 g using a balance. (This step may be conducted in the field.)

12.0 Data Analysis and Calculations

Carry out calculations, retaining at least one extra decimal significant figure beyond that of the acquired data. Round off figures only after the final calculation. Other forms of the equations may be used as long as they give equivalent results.

12.1 Nomenclature.

K_1= 0.3858 °K/mm Hg for metric units.

= 17.64 °R/in. Hg for English units.

K_3= 10^{-6}g/µg for metric units.

= 2.2046×10^{-9}lb/µg for English units.

m_{Be}= Total weight of beryllium in the source sample.

P_s= Absolute stack gas pressure, mm Hg (in. Hg).

t = Daily operating time, sec/day.

T_s= Absolute average stack gas temperature, °K (°R).

Vm(std)= Dry gas sample volume at standard conditions, scm (scf).

Vw(std)= Volume of water vapor at standard conditions, scm (scf).

12.2 Average Dry Gas Meter Temperature and Average Orifice Pressure Drop, Dry Gas Volume, Volume of Water Vapor Condensed, Moisture Content, Isokinetic Variation, and Stack Gas Velocity and Volumetric Flow Rate. Same as Method 5, Sections 12.2 through 12.5, 12.11, and 12.12, respectively.

12.3 Total Beryllium. For each source sample, correct the average maximum absorbance of the two consecutive samples whose peak heights agree within 3 percent of their average for the contribution of the solution blank (see Sections 11.3.4 and 11.5.2). Correcting for any dilutions if necessary, use the calibration curve and these corrected averages to determine the total weight of Be in each source sample.

12.4 Beryllium Emission Rate. Calculate the daily Hg emission rate, R, using Equation 104–1. For continuous operations, the operating time is equal to 86,400 seconds per day. For cyclic operations, use only the time per day each stack is in operation. The total Hg emission rate from a source will be the summation of results from all stacks.

$$R = \frac{K_1 K_3 t m_{Be} P_s v_s A_s}{T_s \left(V_{m(std)} + V_{w(std)} \right)} \qquad \text{Eq. 104-1}$$

12.5 Determination of Compliance. Each performance test consists of three sample runs. For the purpose of determining compliance with an applicable national emission standard, use the average of the results of all sample runs.

13.0 Method Performance.[Reserved]

14.0 Pollution Prevention.[Reserved]

15.0 Waste Management.[Reserved]

16.0 References

Same as References 1, 2, and 4–11 of Section 16.0 of Method 101 with the addition of the following:

1. Amos, M.D., and J.B. Willis. Use of High-Temperature Pre-Mixed Flames in Atomic Absorption Spectroscopy. Spectrochim. Acta. 22:1325. 1966.

2. Fleet, B., K.V. Liberty, and T. S. West. A Study of Some Matrix Effects in the Determination of Beryllium by Atomic Absorption Spectroscopy in the Nitrous Oxide-Acetylene Flame. Talanta 17:203. 1970.

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Venice Precision, LLC Operation/ Maintenance Plan

Emission control system operating procedures shall include the following:

a. Upon startup the outlets of the vacuum system shall be checked for vacuum flow.

b. All vacuum lines that are not in use shall be plugged.

c. The cyclone, filter and HEPA filter shall be checked daily upon startup and any necessary repairs or replacements made as needed.

d. The emission control system shall continue to run for at least 5 minutes after all beryllium machining equipment has been turned off.

Procedures for dry Beryllium machining shall include:

1. Operator shall don mask and protective clothing;
2. Identify inlet valve of exhaust ventilation system closest to the machining operation;
3. Attach 2" flexible hose from inlet valve to collection point on machine performing the operation (NOTE: Attach the 2" flexible hose as close as possible to point of waste generation);
4. Open inlet valve; check that all other valves on the main trunk line are closed;
5. Turn on Aerotec dust collector;
6. On machine performing operation, turn on local exhaust ventilation (Torit Dryflo) unit;
7. Proceed with operation;
8. Observe that flexible hose is collecting Beryllium waste chips/ dust, AND that no Beryllium escapes the machine enclosure;
9. Disconnect flexible hose, and store in the Aerotec dust collection room;
10. Close trunk valve;
11. Turn off Aerotec Dust Collection Unit;
12. Turn off Torit Dryflo exhaust ventilation unit.

See Spreadsheet.:

		Regulated Material Processed							
		Pure Be				Be compounds/ alloys (e.g., Albemet)			
	How processed	wet		dry		wet*		dry	
	Control Equipment used	Machine mounted Donaldson Torit Dry-Flo HEPA filtration system	Remotely located cyclone followed by 2-phase HEPA filtration	Machine mounted Donaldson Torit Dry-Flo HEPA filtration system	Remotely located cyclone followed by 2-phase HEPA filtration	Machine mounted Donaldson Torit Dry-Flo HEPA filtration system	Remotely located cyclone followed by 2-phase HEPA filtration	Machine mounted Donaldson Torit Dry-Flo HEPA filtration system	Remotely located cyclone followed by 2-phase HEPA filtration
Quantity	Equipment								
2	YCM machining centers			x	x	x			
3	Mori Seiki machining centers			x	x	x			
2	Okuma Howa 4VA machining centers			x	x	x			
1	Hardinge Lathe Live tooling			x	x	x			
1	Mori Seki Lathe Live tooling			x	x	x			
3	Hardinge HLV tool rm lathes (manual)			x	x	x			
2	Charmilles wire EDM	x	x			x			
1	Deckel horizontal/vertical mill (manual)			x	x	x			
1	Sunnen Hone MBB	x	x			x			
1	Peter Walters Double Disc lapping	x	x			x			
1	Lapmaster 36	x	x			x			
1	Lapmaster 24	x	x			x			
1	Lapmaster 15	x	x			x			
2	Hyprez/ Engis 15 Polishing	x	x			x			
1	Donaldson Torit debussing station			x	x	x			
1	Witt Dremels & 10-30 power scopes (inspection ONLY)								
1	Almco Tub Vibrating Tumbler 60".	x	x			x			
1	Rockwell drill press			x	x	x			
4	Walker Turner drill press			x	x	x			
1	Delta drill press			x	x	x			
2	Duracraft Clausing drill press			x	x	x			
1	Dumore drill press			x	x	x			
4	Ultrasonic degreasers	x	x			x			
1	pan rinse tank	x	x			x			
0	diamond fly cutting machine					x			
0	5-axis machining center					x			
3	Mori Seiki vertical machining centers			x	x	x			

1	LeBlonde manual lathe					x			
1	Mitsubishi Die Sink wire EDM					x			
1	Grieve 1200 degrees F oven					x			
1	Electro Oven 1000 degrees F					x			
1	Associated Environmental oven					x			
1	Tool grinder 3012/17 (for carbide cutting tools ONLY)								
1	Tool grinder 1283277 (for carbide cutting tools ONLY)								
1	Pedestal grinder (for carbide cutting tools ONLY)								
1	Surface grinder (for carbide cutting tools ONLY)								
	Inspection tools:								
1	Cordax RX-50								
1	Cordax RX-35								
2	Zeiss Contura G2								
1	OGP Smart Scope								
1	Cordax 4 manual								
1	Zeiss Rondcom 31C								
1	Zygo Interferometer								
1	Auto collimators								
1	Doall & VanKeuren Flats								
1	Hilger & Watts Autocolimater								
1	Leitz Wetzlar Autocolimater								
1	Sheffield electronic indicators w/ amplifiers								
1	Sheffield surface roughness								
1	Rockwell hardness tester								
1	*Carl Mahr indicators*								
1	*Johansson Mikrokater*								
1	*Surface plates*								
1	*Placheks*								
2	*Webber blocks*								
1	*Height gauges (various)*								
1	*Plug gauges (various)*								
1	*Vermont gauges*								
1	*Indicators (various);*								
1	*Scopes*								

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*wet = submerged or flooded in enclosed machine

Due to the minimal use of the the cyclone HEPA filtration system, VP will have a timer installed to indicate actual use of this system -> indicate when to change filters.