

GENERAL AIR QUALITY OPERATING PERMIT FOR NESHAP GASOLINE DISPENSING FACILITIES (GDF)

TECHNICAL SUPPORT DOCUMENT

October 2010

I. GENERAL COMMENTS:

The Pima County Department of Environmental Quality (PDEQ) created this general permit and application for those sources that have a minimum yearly throughput of 6,000,000 gallons (40 tons VOC) and a maximum yearly throughput of 13,850,000 gallons (90 tons VOC), subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP). This will streamline the permitting process for the large number of sources which would otherwise require substantially similar individual source permits. This action shall reduce PDEQ's workload and afford decreased permitting timeframes. To obtain coverage under this general permit, the applicant shall complete the general permit application form for NESHAP Gasoline Dispensing Facilities in order to obtain an Authorization to Operate (ATO). Sources that are or will be located in non-attainment areas may or may not qualify for this general permit and should contact the department to verify applicability.

II. SOURCE DESCRIPTION

Sources covered by this general permit include GDFs with a minimum yearly throughput of 6,000,000 gallons (40 tons VOC) and a maximum yearly throughput of 13,850,000 gallons (90 tons VOC). These sources must not otherwise require an air quality permit for other equipment or processes located or conducted on-site. Sources with other equipment or processes cannot obtain this general permit and are required to submit a complete permit application to obtain an individual source permit from PDEQ.

The primary pollutants emitted from GDFs are Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). Sources covered by this general permit shall emit less than major source thresholds on an individual basis for all criteria pollutants either by operational design or via a federally enforceable limitation (i.e. voluntarily accepted limitation on throughput by the applicant).

The NESHAP requires all GDF with a minimum monthly throughput of 10,000 gallons to equip all gasoline storage tanks with a submerged filling device. Additionally, all sources with a minimum monthly throughput of 100,000 gallons are required to operate a vapor balance system on gasoline storage tanks. This permit covers sources subject to all of the NESHAP requirements based on the minimum 6,000,000 gallons yearly throughput criteria, which mathematically requires a monthly throughput of 100,000 gallons or more. Multiple GDF located within the same source's exterior boundaries are to be treated as separate facilities for throughput calculation, permit application and permit compliance.

III. EMISSIONS ESTIMATES

Emission estimates will be calculated by PDEQ. PDEQ has set the maximum yearly throughput for this general permit at 13,850,000 gallons. This is based upon the following EPA AP 42, Table 5.2-7 emission rates:

Balanced Submerged Filling	0.3	lb/10 ³ gal
Underground Tank Breathing and Emptying	1.0	lb/10 ³ gal
Uncontrolled Displacement Losses	11.0	lb/10 ³ gal
Spillage	0.7	lb/10 ³ gal
Total	13.0	lb/10³ gal (or 0.013 lbs/gal)

The sum of all emissions from any source operating under this general permit shall be less than the following rates:

Pollutant	Emissions (tons/yr)
NO _x	N/A
CO	N/A
SO _x	N/A
VOC	<90
PM ₁₀	< 1
HAP (individual)	2.61
HAPs (combined)	12.29

PDEQ has capped VOC emissions at 90 tons a year to prevent a source subject to this general permit from approaching the criteria pollutant, major source threshold of 100 tons.

$$90 \text{ tons} \times 2000 = 180,000 \text{ lbs}$$

$$180,000 \text{ lbs} / 0.013 \text{ lbs/gal} = 13,846,153 \text{ gallons (rounded up to 13,850,000 gallons)}$$

Yearly throughputs greater than 13,850,000 gallons, based on a 365-day rolling total, will require a PDEQ individual permit.

PDEQ has calculated the combined HAP emission based upon 11.0% of VOCs for one half of the year and 16.3% VOCs for the other half. Using the average of those, 13.65%, combined HAPS for this permit are 90 tons * .1365 = 12.29 tpy. In one half of the year, Hexane, the individual HAP with the highest concentration is 4.4%. In the other half of the year, Hexane is 1.4%. Using the average of those at 2.9%, the highest concentration of an individual HAP is 2.61 tpy. (0.029 * 90 = 2.61)

Based on the above estimates, facilities covered by this General Permit shall be **Class II, Minor, Stationary Sources**.

IV. APPLICABLE REQUIREMENTS

A. NESHAP– Sources are subject to:

40 CFR 63, Subpart CCCCCC
National Emission Standards for Hazardous Air Pollutants for Source Categories: Gasoline Dispensing Facilities

These Standards were promulgated on January 10, 2008, amended on March 7, 2008 and amendments are pending from December 15, 2009. All final and pending amendments have been included in the permit text. Any further updates will be incorporated as PDEQ becomes aware.

B. NSPS – (New Source Performance Standards) No NSPS rules apply to GDFs.

C. Pima County Code (PCC) – The following PCC rules apply:

17.12.185 Permit Contents for Class II and Class III permits

V. PERMIT CONTENTS—Specific Conditions

A. Applicability – Gasoline Dispensing Facility which is required to obtain a permit pursuant to Title 17 of the Pima County Code (PCC) 17.12.140.B.2.b.

B. Emissions Limits and Standards

1. Operational Limitations

Standard	Discussion	Authority
II.A.1	”Once in, always in,” rule for monthly throughput limits. If a Permittee exceeds a throughput threshold, the standards governing that higher throughput will be enforced permanently, despite any subsequent drop below the higher throughput limit. This was added in the revision of the Final Rule.	40 CFR 63.1111(i) PCC 17.12.190.B
II.A.2	Requirement to seek a Class I, individual permit, if any 365-day, rolling total throughput exceeds 13,850,000 gallons. This is the point at which the VOCs exceed 90 tons per year. See calculations in part III of this TSD.	PCC 17.12.190.B

2. Air Pollution Controls

Standard	Discussion	Authority
II.B.1	Requirement to minimize vapor releases by employing measures to minimize spills, employ expeditious cleanup, use gasketed seals and minimize gasoline sent to open waste collection systems.	40 CFR 63.11116(a)
II.B.2	Clarification for portable gasoline tanks filled from the GDF and used to dispense gasoline into engines on-site. Added in amendment of the Final Rule.	40 CFR 63.11111(j)
II.B.3	Requirement to install submerged filling devices on all gasoline storage tanks greater than 249 gallons. Those installed on or before 11/9/06 shall be no more than 12 inches from the bottom of the tank, while those installed after 11/9/06 must be no more than 6 inches from the bottom. An amendment to the Final Rule allows for submerged pipes not meeting these specifications to be considered if the Permittee can prove the tank’s liquid level will always be above the entire opening of the tank.	40 CFR 63.11117(b) &(c)
II.B.4	Requirement for sources with monthly throughputs of 100,000 gallons or more, to operate a vapor balance system in compliance with one of three options: adherence to existing enforceable State, local or tribal rules; adherence to a specific list of management practices; or, achievement of a 95% emission reduction	40 CFR 63.11118, Table 1 to Subpart CCCCC, 40 CFR 63.6(g), 40 CFR 63.11120(b)(1)

C. Monitoring and Recordkeeping Requirements

1. Operational Limitations

Standard	Discussion	Authority
III.A.1	Requirement to operate and maintain the GDF and all associated pollution control equipment and monitoring equipment in a manner consistent with safety and minimizing emissions. Standard operation and maintenance requirement.	40 CFR 63.6(e)(1)(i)
III.A.2	Requirement to provide proof of throughput.	40 CFR 63.11111 (e)
III.A.3	Calculation clarification for monthly throughputs. Each day's addition or subtraction of fuel must be added to previous 364 days and the current 365 readings divided by 12. This gives a rolling, monthly throughput updated each day. This was clarified in the additions to the Final Rule.	40 CFR 63.11132

2. Air Pollution Controls

Standard	Discussion	Authority
III.B.1	Requirement to inspect submerged fill devices at least annually. This equipment must be continuously operational to limit a source's potential to emit. This is a PDEQ-specific requirement.	PCC 17.12.185.A.3.c
III.B.2	Requirement to inspect vapor balance systems at least annually. This equipment must be continuously operational to limit a source's potential to emit. This is a PDEQ-specific requirement.	PCC 17.12.185.A.3.c

3. Recordkeeping

Standard	Discussion	Authority
III.C.1	Clarification as to when throughput documentation must begin. This was an amendment to the Final Rule.	40 CFR 63.11111(e)
III.C.2	Detailed explanation of recorded data required to comply with III.B.1 & 2 of the permit (annual inspections of submerged fill equipment and vapor balance equipment). This is a PDEQ-specific requirement.	PCC 17.12.185.A.3.c
III.C.3	Requirement to retain records of testing results performed under section V of the Specific Conditions, for 5 years and make available for inspection.	40 CFR 63.11125 & 40 CFR 63.11120(c)
III.C.4	Requirement to maintain all other records demonstrating compliance with permit for 5 years.	PCC 17.12.185.A.4.b

D. Reporting Requirements

Standard	Discussion	Authority
IV.A	Requirement to submit a Notification of Performance Test prior to testing required in section V.A & V.B of the Specific Conditions.	40 CFR 63.9(e) 40 CFR 63.1124(b)(4)
IV.B	Requirement to submit a Notification of Compliance Status within 60 days of completing required performance testing. Updated in amendment to Final Rule	40 CFR 63.1124(b)(2) & 40 CFR 63.9(h)(2)(ii)
IV.C	Requirement to report results of all volumetric efficiency tests, required under section V.B of the Specific Conditions, within 180 of performance test completion.	40 CFR 63.1126
IV.D	Requirement to submit completed annual inventory questionnaire when requested.	PCC 17.12.320

E. Testing Requirements

Standard	Discussion	Authority
V.A.1	Requirement to demonstrate equivalency of alternative vapor balance system, operated according to section II.B.3.c of the Specific Conditions, to that detailed in II.B.3.b.	40 CFR 63.11120(b)(1)
V.A.2	Requirement to determine and document alternative values for leak rates and static pressure requirements under the alternative vapor balance system.	40 CFR 63.11120(b)(2)
V.B.1	Requirement to test leak rate and pressure of vapor balance system at installation and every three (3) years thereafter. Test Method via CARB or equivalent.	40 CFR 63.11120(a)(1)
V.B.2	Requirement to test static pressure of vapor balance system at installation and every three (3) years thereafter. Test method via CARB or equivalent.	40 CFR 63.11120(a)(2)
V.B.3	Deadline requirements for completing initial compliance performance tests. This was added in an amendment to the Final Rule	40 CFR 63.11113(e)
V.C	Requirement for all testing to be conducted under normal operating conditions	40 CFR 63.11120(c)

F. Pima County Title 17 Requirements for all Class II Permits

Standard	Discussion	Authority
VI.A.1	Requirement to comply with all permit conditions and applicable standards.	PCC 17.12.185.A.7.a
VI.A.2	Requirement to report excess emissions.	PCC 17.12.185.A.5, PCC 17.12.040
VI.A.3	Requirement dismissing lost production as excuse for not complying with permit conditions.	PCC 17.12.185.A.7.b
VI.A.4	PDEQ disclaimer of any rights or privileges to permit holder.	PCC 17.12.185.A.7.d
VI.A.5	Requirement for source to pay permit fees	PCC 17.12.185.A.8, PCC 17.12.520

Standard	Discussion	Authority
VI.B	Disclaimer that permit may be revised or terminated for cause	PCC 17.12.185.A.7.c
VI.C.1	Requirement for permittee to provide requested information and records.	PCC 17.12.185.A.7.e
VI.C.2	Requirement correct or resubmit any known incorrect information	PCC 17.12.185.165.G
VI.D	Severability Clause	PCC 17.12.185.A.6
VI.E	Requirement for facility change(s)	PCC 17.12.240, PCC 17.12.255 PCC 17.12.260

VI. PERMIT CONTENTS—Attachments

A. Attachment 1

A listing of generally applicable rules or requirements.

B. Attachment 2

Authority to Operate (ATO)

Standard	Discussion	Authority
I	Facility Information including Business Name, Facility Name, Responsible Official, Contact and Source Location taken from Standard Application Form	PCC 17.12.165.A
II	Authorized Equipment regarding storage tanks and associate pollution control equipment including assigned ATO/permit number, tank ID, tank volume, tank manufacture date, tank installation date, submerged fill device installation date and clearance, and vapor balance system type and installation date.	40 CFR 63 Subpart CCCCC
III	Throughput Limitation for facility-wide, maximum yearly rolling total in gallons. The limits of this permit require a throughput of 6,000,000 to 13,850,000 gallons.	40 CFR 63 Subpart CCCCC