



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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February 10, 2014

Mr. William Serra
Smith & Wesson Corporation
2100 Roosevelt Avenue
Springfield, MA 01102

RE: SPRINGFIELD
Transmittal No.: X258758
Application No.: WE-14-001
Class: *Submin*
FMF No.: 130231
AIR QUALITY PLAN APPROVAL

Dear Mr.Serra:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Waste Prevention, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns the proposed construction, and operation of an additional test firing range at your firearms manufacturing facility located at 2100 Roosevelt Avenue in Springfield, Massachusetts (“Facility”).

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control,” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Smith & Wesson Corporation (“Smith & Wesson”) produces small-arm firearms at the manufacturing facility located at 2100 Roosevelt Avenue in Springfield, Massachusetts. At the facility, Smith & Wesson operates four (4) test-firing ranges to allow testing of each firearm produced.

In 1988, a Plan Approval (PV-88-IF-014) was issued by MassDEP for test-firing Ranges A & B which provided for a pre-filtration system followed by a high-efficiency particulate absorption (“HEPA”) filter system. In 2007, test-firing Range C was installed as a *de minimus* source based on the emission rates demonstrated by the 1988 test data. Range C is equipped with a filtration system similar to ranges A & B to provide 99.97% removal efficiency. Range D was added to provide additional test-firing capability as a *de minimus* source in 2010. Two “snail-type” traps were installed for customer service and research and development (“R&D”) purposes. Range D is also equipped with a HEPA filtration system to provide 99.97% control.

At this time, Smith & Wesson plans to add an additional test-firing range (Range E) to accommodate custom design small firearm production purposes. Based on the available emission test data, the new range is also a *de minimus* source based on the manufacturing capacity of the Springfield facility and the anticipated number of test rounds fired.

Smith & Wesson proposes to control emissions of particulate matter and lead from the discharge of firearms during test-firing using a pre-filter dust collection system followed by HEPA filter rated at 99.97% removal efficiency. Following the filter, the test-firing range exhaust will exit through a stack at a height approximately 30 feet above ground level.

Each filtration system is subject to the best available control technology (BACT) requirements of 310 CMR 7.02(8)(a)2. In MassDEP established Best Available Control Technology (“BACT”) for each two-stage filtration system as 99% control efficiency as determined from a top-down BACT analysis. The current filtration systems for each test-firing Range have control efficiencies of 99.97%

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
Range A	Custom design small arms test-firing range for production testing	NA	Pre-filter dust collection followed by HEPA filtration
Range B	Custom design small arms test-firing range for production testing	NA	Pre-filter dust collection followed by HEPA filtration
Range C	Custom design small arms test-firing range for production testing	NA	Pre-filter dust collection followed by HEPA filtration
Range D	Custom design small arms test-firing range for R&D testing	NA	HEPA filtration
Range E	Custom design small arms test-firing range for production testing	NA	Pre-filter dust collection followed by HEPA filtration

Table 1 Key:

EU# = Emission Unit Number
 HEPA = High Efficiency Particulate Adsorption
 PCD = Pollution Control Device
 R&D = Research and Development
 NA = Not Applicable

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
Ranges A, B, C, D, & E	7800 production units ¹ per day; 10 test-fire rounds (Avg.) per unit produced	PM, PM ₁₀ , PM _{2.5}	0.00002 Lbs/hr < 1.0 TPY
		Lead	0.00002 Lbs/hr < 1.0 TPY

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
		HAP (Individual)	< 1.0 TPY
		HAP (Total)	< 1.0 TPY
		Visible Emissions	0 %
Facility-wide	NA	Individual HAP (Lead)	< 1.0 TPY
		HAP (Total)	< 9.9 TPY

1) Production units stands for each firearms produced.

Table 2 Key:

EU# = Emission Unit Number

PM = Total Particulate Matter

PM₁₀ = Particulate Matter less than or equal to 10 microns in diameter

PM_{2.5} = Particulate Matter less than or equal to 2.5 microns in diameter

HAP (single) = maximum single Hazardous Air Pollutant

HAPs (total) = total Hazardous Air Pollutants.

Lbs/hr = pounds per hour

TPY = tons per consecutive 12-month period

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3	
EU#	Monitoring and Testing Requirements
Ranges A, B, C, D, & E	1. Smith & Wesson shall monitor the pre-filter dust collection and HEPA filtration system to ensure that the equipment is operating within manufacturer's recommendations.
	2. Smith & Wesson shall monitor the differential pressure of filtration systems and air velocity at the shooting tube ports on a weekly basis.
Facility-wide	3. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13

Table 3 Key:

EU# = Emission Unit Number

HEPA = High Efficiency Particulate Adsorption

Table 4	
EU#	Record Keeping Requirements
Ranges A, B, C, D, & E	1. Smith & Wesson shall record the differential pressure and air velocity at shooting ports for each pre-filter dust collector and HEPA filtration device weekly.
	2. Smith & Wesson shall record in a logbook the date and results of inspections of each ranges dust collection unit and the HEPA particulate filter. These inspections shall be performed at least once calendar month.
Facility- wide	3. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report .
	4. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	5. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCD(s) approved herein on-site.
	6. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCD(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	8. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	9. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

- EU# = Emission Unit Number
- HEPA = High Efficiency Particulate Adsorption
- PCD = Pollution Control Device
- SOMP = Standard Operating and Maintenance Procedure
- USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Western Regional Office of MassDEP, BWP Permit Chief by telephone (413) 755-2115, email, Marc.Simpson@state.ma.us or fax (413) 784-1149, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP’s request.
	4. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	5. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:
 EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	Special Terms and Conditions
Ranges A, B, C, D, & E	1. Smith & Wesson shall operate with zero visible emissions from each test-firing range dust collection system exhaust.
	2. An audible or visual alarm shall be used to indicate when the pre-filtration system is compromised before allowing excess dust to reach the final HEPA filtration system. The alarm will be located on the panel beside the unit and shall be part of the normal maintenance and security inspection checks.

Table 6	
EU#	Special Terms and Conditions
	3. Change each pre-filter dust collector filter at a maximum of every three (3) years and the HEPA filters every two (2) years.
Ranges A, B, C, D, & E	4. Smith & Wesson shall utilize best management practices to recycle the maximum amount of lead particulate matter collected in the pre-filtration system and reduce the number of lead contaminated filters which must be sent to disposal facilities.
	5. Spent filter cartridges shall be disposed of in accordance with RCRA requirements due to their lead content.

Table 6 Key:

EU# = Emission Unit Number

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.” The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
Range A	28	3 x 2	30	75
Range B	20	3 x 2.5	96	75
Range C	25	0.5	42	70
Range D	25	0.66	24	70
Range E	25	0.83	55	70

Table 7 Key:

EU# = Emission Unit Number

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Todd Wheeler by telephone at (413)-755-2297, or in writing at the letterhead address.

Marc Simpson
Permit Chief
Bureau of Waste Prevention

Enclosure

cc: WERO AQ plan file
WERO AQ approval file

ecc: MassDEP/Boston - Yi Tian
MassDEP/WERO – Peter Czapienski
James Gagnon, PE, LSP, CIH