

Public Notice

DEQ Requests Comments on FXI's Proposed Air Quality Permit

The Oregon Department of Environmental Quality invites the public to submit written comments on the conditions of FXI, Inc.'s proposed air quality permit, known officially as Simple Air Contaminant Discharge Permit.

Summary

DEQ received an application to renew the permit from FXI on April 6, 2020. This permit renewal includes federal emission standards for flexible polyurethane foam manufacturing.

How do I participate?

To submit your comments for the public record, send them by mail, fax or email:

DEQ Northwest Region
Air Quality Permit Coordinator
700 NE Multnomah St., Ste 600
Portland, OR 97232

Fax: 503-229-6945

Email: nwraqpermits@deq.state.or.us

Written comments are due by 5 p.m.
Nov. 7, 2020.

About the facility

FXI operates a flexible polyurethane foam manufacturing business for furniture and carpet padding, which involves combining a foaming agent and acetone with the chemicals toluene diisocyanate and polyols to create a foam bun. The bun is further shaped and cut into specific size pieces. The facility is located at 3900 NE 158th Avenue in Portland.

What air pollutants would the permit regulate?

This permit regulates emissions of the pollutants listed in the table at the end of this document.

How does DEQ determine permit requirements?

DEQ evaluates types and amounts of pollutants and the facility's location, and determines permit requirements according to state and federal regulations.

How does DEQ monitor compliance with the permit requirements?

This permit would require the facility to monitor pollutants using federally approved monitoring practices and standards.

DEQ conducts periodic onsite inspections of the facility, and reviews annual reports to ensure compliance with permit conditions.

What happens after the public comment period ends?

Once the comment period closes, DEQ will respond to any comments received and may make revisions to the permit in response to the comments received. If DEQ receives no comments, or once DEQ addresses comments and makes required changes to the permit, the permit will be issued for a period of five years.

Where can I get more information?

Find out more and view the application at <https://go.usa.gov/xEJf2>, or contact the Northwest Region Air Quality Permit Coordinator at:

Phone: 503-229-5582 or 800-452-4011

Fax: 503-229-6945

Email: nwraqpermits@deq.state.or.us

You can also view the application and related documents in person at the DEQ office in Portland. For a review appointment, call the Northwest Region Air Quality Permit Coordinator at 503-229-5582.

Alternative Formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.state.or.us.



State of Oregon
Department of
Environmental
Quality

Northwest Region
Air Quality Program
700 NE Multnomah St.
Suite 600
Portland, OR 97232

Phone: 503-229-5027
800-452-4011
Fax: 503-229-6945

Contact: Owen Rudloff,
Permit Writer

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

Emissions limits

Criteria Pollutants: Table 1 below presents maximum allowable emissions of criteria pollutants for the facility. The current emission limit reflects maximum emissions the facility can emit under the existing permit. The proposed emission limit reflects maximum emissions the facility would be able to emit under the proposed permit. Typically, a facility's actual emissions are less than maximum limits established in a permit; however, actual emissions can increase up to the permitted limit.

Table 1

Criteria Pollutant	Current Limit (tons/yr)	Proposed Limit (tons/yr)
Volatile organic compounds	39	39

For more information about criteria pollutants, go to: www.epa.gov/criteria-air-pollutants

Hazardous air pollutants:

FXI is not a major source of hazardous air pollutants, however EPA has determined businesses similar to this facility, as a group, emit enough hazardous air pollutants to warrant regulation. Therefore, this source is subject to the following National Emission Standard for Hazardous Air Pollutants: subpart OOOOOO for Flexible Polyurethane Foam Production and Fabrication Area Sources, which prohibits the use of methylene chloride at the facility. More detailed information can be found in the review report.

For more information about hazardous air pollutants, go to: <https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants>.



OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
SIMPLE
AIR CONTAMINANT DISCHARGE PERMIT

Northwest Region
700 NE Multnomah St., Suite 600
Portland, OR 97232

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

FXI, Inc.
3900 NE 158th Avenue
Portland, OR 97230

INFORMATION RELIED UPON:

Application No.: 031951
Date Received: 04/06/2020

PLANT SITE LOCATION:

FXI, Inc.
3900 NE 158th Avenue
Portland, OR 97230

LAND USE COMPATIBILITY FINDING:

Approving Authority: City of Portland
Approval Date: 04/03/1995

PERMIT PREVIOUSLY ISSUED TO:

Hickory Springs of California, LLC

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Steven A. Dietrich, Northwest Region Air Quality Manager

Date

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-8010):

Table 1 Code	Source Description	SIC/NAICS
Part B, 88	Foam mattress manufacturer using TDI foam-blowing process.	3086/326150

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1.0 DEVICE, PROCESS AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

The devices, processes, and pollution control devices regulated by this permit are the following:

Devices and Processes Description	Device ID	Pollution Control Device Description	PCD ID
3-million BTU Boiler, categorically insignificant	n/a	n/a	n/a
2 TDI tanks	n/a	Carbon scrubber drum failsafe, no emission reduction capacity	n/a
Polyurethane foaming process	n/a	n/a	n/a

2.0 GENERAL EMISSION STANDARDS AND LIMITS

2.1. Visible Emissions

The permittee must not allow emissions to equal or exceed 20% opacity from any equipment other than fugitive emissions. Opacity must be measured as a six-minute block average using EPA Method 9.

2.2. Fugitive Emissions

- a. The permittee must take reasonable precautions to prevent fugitive dust emissions from leaving the property of a source. Reasonable precautions include, but are not limited to: [OAR 340-208-0210]
 - i. Applying water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
 - ii. Enclosing (full or partial) materials stockpiles in cases where application of water or other suitable chemicals are not sufficient to prevent particulate matter, including dust, from becoming airborne;
 - iii. Installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- b. If requested by DEQ, the permittee must:
 - i. Prepare and submit a fugitive emission control plan within 60 days of the request;
 - ii. Implement the DEQ approved plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period; and
- c. Keep the plan on site and make the plan available upon request. [OAR 340-208-0210]The permittee must not allow fugitive dust emissions to leave the property of a source for a period or periods totaling more than 18 seconds in a six-minute period. The permittee must measure fugitive emissions by EPA method 22 with the minimum observation time of six minutes.

- d. The permittee must measure fugitive emissions using method 22 at least once per month and record the results of these measurements.

2.3. Particulate Matter Emissions

The permittee must comply with the following particulate matter emission limits. For fuel burning equipment that burns fuels other than wood, emission results are corrected to 50% excess air.

- a. Particulate matter emissions must not exceed 0.14 grains per dry standard cubic foot. [OAR 340-226-0210(2)(b)(B)]
- b. Particulate matter emissions from any fuel burning equipment that is installed, constructed or modified on or after April 16, 2015 must not exceed 0.10 grains per dry standard cubic foot, corrected to 12% CO₂ or 50% excess air. [OAR 340-228-0210(2)(c)]
- c. Particulate matter emissions from any device or process (other than fugitive emissions sources or fuel burning equipment certified under OAR 340-262-0500) that is installed, constructed or modified after April 16, 2015 must not exceed 0.10 grains per dry standard cubic foot. [OAR 340-226-0210(2)(c)]

2.4. Particulate Matter Fallout

The permittee must not cause or permit the deposition of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. [OAR 340-208-0450]

2.5. Nuisance and Odors

The permittee must not cause or allow the emission of odorous or other fugitive emissions so as to create nuisance conditions off the permittee's property. Nuisance conditions will be verified by DEQ personnel. [OAR 340-208-0300]

2.6. Complaint Log

The permittee must maintain a log of all complaints received by the permittee in person, in writing, by telephone or through other means that specifically refer to air pollution, odor, or nuisance concerns associated with the permitted facility. Documentation must include: [OAR 340-214-0114]

- a. The date the complaint was received;
- b. The date and time the complaint states the condition was present;
- c. A description of the pollution or odor condition;
- d. The location of the complainant/receptor relative to the plant site;
- e. The status of plant operation or activities during the complaint's stated time of pollution or odor condition; and
- f. A record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

2.7. Fuels and Fuel Sulfur Content

The permittee must not use any fuels other than natural gas, propane, butane or any of the ASTM grade fuel oils listed below. The sulfur content cannot exceed:

- a. 0.0015% sulfur by weight for ultra low sulfur diesel;
- b. 0.3% sulfur by weight for ASTM Grade 1 distillate oil; [OAR 340-228-0110]
- c. 0.5% sulfur by weight for ASTM Grade 2 distillate oil; [OAR 340-228-0110]
- d. 1.75% sulfur by weight for residual oil; [OAR 340-228-0100]

2.8. NESHAP – Subpart OOOOOO – Flexible Polyurethane Foam Production and Fabrication Requirements

- a. The permittee is prohibited from using methylene chloride in any process at the facility (40 CFR 63.11416)
- b. The permittee must maintain all information used to demonstrate compliance with the NESHAP requirements for a period of 5 years. Data for the last two years must be kept on site. The remaining 3 years of data must be kept but can be stored off site (40 CFR 63.11417).

3.0 OPERATION AND MAINTENANCE REQUIREMENTS

3.1. Typically Achievable Control Technology (TACT) Requirement

TDI Receiving System: The permittee must make a visual examination of all connections, joints, valves, fittings, and other possible points of leakage on the toluene diisocyanate (TDI), once a month at a minimum.

4.0 PLANT SITE EMISSION LIMITS

4.1. Plant Site Emission Limits (PSEL)

The permittee must not cause or allow plant site emissions to exceed the following: [OAR 340-222-0040 and/or OAR 340-222-0041, OAR 340-222-0060]

Pollutant	Limit	Units
VOC	39	tons per year

4.2. Annual Period

The annual plant site emissions limits apply to any 12-consecutive calendar month period. [OAR 340-222-0035]

5.0 COMPLIANCE DEMONSTRATION

5.1. Monitoring Requirements

The permittee must monitor the operation and maintenance of the facility and associated air contaminant control devices as follows: [OAR 340-226-0120]

- a. Total facility operating time (hours/year);
- b. Quantity of natural gas combusted at the facility, monthly, in MMft³;
- c. Type, quantity and content of VOC containing materials used, monthly;
- d. Any other parameters or processes required for the annual report.

5.2. Mass Balance without controls

The permittee must calculate the VOC emissions for each 12 consecutive calendar month period based on the following formula: [OAR 340-222-0080]

$$E_{\text{VOC-A}} = [\sum(C_x \times D_x \times K_x) - W] \times 1 \text{ ton}/2000 \text{ pounds}$$

where:

- $E_{\text{VOC-A}}$ = VOC emissions in tons/year
- Σ = symbol representing “summation of”;
- C = Material usage for the period in gallons
- D = Material density in pounds per gallon
- K = VOC concentration in pounds of VOC per pound of material, expressed as a decimal
- x = Subscript x represents a specific material
- W = Weight of VOC shipped offsite in pounds

6.0 RECORDKEEPING REQUIREMENTS

6.1. Operation and Maintenance

The permittee must maintain the following records related to the operation and maintenance of the facility and associated air contaminant control devices: [OAR 340-214-0114]

- a. Log of monthly TDI system inspections and repairs completed, if any.
- b. Quantity of VOC containing materials used, in gallons, monthly.
- c. VOC concentration(s) in materials used, monthly.
- d. A calculation of VOC emissions as required in Condition 4.1, monthly.
- e. Total facility operating time (hours/year).

- f. Quantity of natural gas combusted at the facility, monthly, in MMft³.

6.2. Excess Emissions

- a. The permittee must maintain the records of excess emissions listed below and as defined in OAR 340-214-0300 through 340-214-0340, recorded on occurrence. Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity as a six-minute block average.
 - i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;
 - ii. The date and time the permittee notified DEQ of the event;
 - iii. The equipment involved;
 - iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;
 - v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations); and,
 - vii. The final resolution of the cause of the excess emissions.
- b. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must immediately take action to minimize emissions by reducing or ceasing operation of the equipment or facility, unless doing so could result in physical damage to the equipment or facility, or cause injury to employees. In no case may the permittee operate more than 48 hours after the beginning of the excess emissions, unless continued operation is approved by DEQ in accordance with OAR 340-214-0330(4).
- c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
- d. The permittee must maintain a log of all excess emissions in accordance with OAR 340-214-0340(3).

6.3. Complaints

The permittee must maintain a log of all complaints received by the permittee in person, in writing, by telephone or through other means according to Condition 2.6. Documentation must include all information identified in Condition 2.6. [OAR 340-214-0114]

6.4. Retention of Records

Unless otherwise specified, the permittee must retain all records for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application and make them available to DEQ upon request. The permittee must maintain the two (2) most recent years of records onsite. [OAR 340-214-0114]

7.0 REPORTING REQUIREMENTS

7.1. Excess Emissions

- a. The permittee must notify DEQ of excess emissions events if the excess emission is of a nature that could endanger public health. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 9.0 by email, telephone, facsimile, or in person; and
- b. The permittee must also submit follow-up reports summarizing records of excess emissions as required in Condition 6.2 when required by DEQ. The reports must be submitted to DEQ within 15 days of request.

7.2. Annual Report

For each year this permit is in effect, the permittee must submit to DEQ by **February 15** two (2) paper copies and one (1) electronic copy of the following information for the previous calendar year. If February 15 falls on a weekend or Monday holiday, the permittee must submit their annual report on the next business day.

- a. Operating parameters:
 - i. Quantity of each VOC containing material used, in gallons:
 - ii. Concentration of VOC in each material used, in lb/gal;
 - iii. Total facility operating time (hours/year).
 - iv. Quantity of natural gas combusted at the facility, monthly, in MMft³.
 - v. Log of monthly TDI system inspections and repairs completed, if any.
- b. A summary of annual VOC emissions determined each month in accordance with Condition 5.2.
- c. Records of all planned and unplanned excess emissions events, on occurrence.
- d. Summary of complaints relating to air quality received by permittee during the year.
- e. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
- f. List of major maintenance performed on pollution control equipment.

7.3. Notice of Change of Ownership or Company Name

The permittee must notify DEQ in writing using a DEQ “Transfer Application Form” within 60 days after the following:

- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or,
- b. Sale or exchange of the activity or facility.

7.4. Construction or Modification Notices

The permittee must notify DEQ in writing using a DEQ “Notice of Intent to Construct Form,” or other permit application form and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;
- b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
- c. Constructing or modifying any air pollution control equipment.

8.0 ADMINISTRATIVE REQUIREMENTS

8.1. Permit Renewal Application

The permittee must submit the completed application package for renewal of this permit **120 days prior to the expiration date**. Two (2) paper copies and one (1) electronic copy of the application must be submitted to the DEQ Permit Coordinator listed in Condition 9.2 [OAR 340-216-0040]

8.2. Permit Modifications

Application for a modification of this permit must be submitted at least 60 days prior to the source modification. When preparing an application, the applicant should also consider submitting the application 120 days prior to allow DEQ adequate time to process the application and issue a permit before it is needed. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the DEQ Business Office.

8.3. Annual Compliance Fee

The permittee must pay the annual fees specified in OAR 340-216-8020, Table 2, Part 2 and 3 for a Standard ACDP by **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by DEQ regulations will be mailed prior to the above date. **Late fees in accordance with Part 5 of the table will be assessed as appropriate.**

8.4. Change of Ownership or Company Name Fee

The permittee must pay the non-technical permit modification fee specified in OAR 340-216-8020, Table 2, Part 4 with an application for changing the ownership or the name of the company.

8.5. Special Activity Fees

The permittee must pay the special activity fees specified in OAR 340-216-8020, Table 2, Part 4 with an application to modify the permit.

9.0 DEQ CONTACTS / ADDRESSES

9.1. Business Office

The permittee must submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:

Oregon Dept. of Environmental Quality
Financial Services – Revenue Section
700 NE Multnomah St., Suite 600
Portland, Oregon 97232-4100

9.2. Permit Coordinator

The permittee must submit all notices and applications that do not include payment to the Permit Coordinator.

Oregon Dept. of Environmental Quality
Northwest Region
Air Quality Permit Coordinator
700 NE Multnomah St., Suite 600
Portland, OR 97232-4100
nwraqpermits@deq.state.or.us

9.3. Report Submittals

Unless otherwise notified, the permittee must submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Region. If you know the name of the Air Quality staff member responsible for your permit, please include it:

Oregon Dept. of Environmental Quality
Northwest Region Air Quality
700 NE Multnomah St., Suite 600
Portland, OR 97232-4100

9.4. Web Site

Information about air quality permits and DEQ's regulations may be obtained from the DEQ web page at www.oregon.gov/deq/.

10.0 GENERAL CONDITIONS AND DISCLAIMERS

10.1. Permitted Activities

- a. Until this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from the following:
 - i. Processes and activities directly related to or associated with the devices/processes listed in Condition 1.0 of this permit;
 - i. Any categorically insignificant activities, as defined in OAR 340-200-0020, at the source; and
 - ii. Construction or modification changes that are Type 1 or Type 2 changes under OAR 340-210-0225 that are approved by DEQ in accordance with OAR 340-210-0215 through 0250, if the permittee complies with all of the conditions of DEQ's approval to construct and all of the conditions of this permit.
- b. Discharge of air contaminants from any other equipment or activity not identified herein is not authorized by this permit.

10.2. Other Regulations

In addition to the specific requirements listed in this permit, the permittee must comply with all other applicable legal requirements enforceable by DEQ.

10.3. Conflicting Conditions

In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply. [OAR 340-200-0010]

10.4. Masking of Emissions

The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [OAR 340-208-0400]

10.5. DEQ Access

The permittee must allow DEQ's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468.095.

10.6. Permit Availability

The permittee must have a copy of the permit available at the facility at all times. [OAR 340-216-0020(3)]

10.7. Open Burning

The permittee may not conduct any open burning except as allowed by OAR 340, division 264.

10.8. Asbestos

The permittee must comply with the asbestos abatement requirements in OAR 340, division 248 for all activities involving asbestos-containing materials, including, but not limited to, demolition, renovation, repair, construction, and maintenance.

10.9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

10.10. Permit Expiration

- a. A source may not be operated after the expiration date of the permit, unless any of the following occur prior to the expiration date of the permit: [OAR 340-216-0082]
 - i. A timely and complete application for renewal of this permit or for a different ACDP has been submitted; or
 - ii. A timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or
 - iii. Another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.
- b. For a source operating under an ACDP or Oregon Title V Operating Permit, a requirement established in an earlier ACDP remains in effect notwithstanding expiration of the ACDP, unless the provision expires by its terms or unless the provision is modified or terminated according to the procedures used to establish the requirement initially.

10.11. Permit Termination, Revocation, or Modification

DEQ may terminate, revoke, or modify this permit pursuant to OAR chapter 340 division 216. [OAR 340-216-0082].

11.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	O ₂	oxygen
ASTM	American Society for Testing and Materials	OAR	Oregon Administrative Rules
AQMA	Air Quality Maintenance Area	ORS	Oregon Revised Statutes
calendar year	The 12-month period beginning January 1st and ending December 31 st	O&M	operation and maintenance
CAO	Cleaner Air Oregon	Pb	lead
CFR	Code of Federal Regulations	PCD	pollution control device
CO	carbon monoxide	PEMS	Predictive emission monitoring system
CO _{2e}	carbon dioxide equivalent	PM	particulate matter
DEQ	Oregon Department of Environmental Quality	PM ₁₀	particulate matter less than 10 microns in size
dscf	dry standard cubic foot	PM _{2.5}	particulate matter less than 2.5 microns in size
EPA	US Environmental Protection Agency	ppm	part per million
FCAA	Federal Clean Air Act	PSD	Prevention of Significant Deterioration
Gal	gallon(s)	PSEL	Plant Site Emission Limit
GHG	greenhouse gas	PTE	Potential to Emit
gr/dscf	grains per dry standard cubic foot	RACT	Reasonably Available Control Technology
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	scf	standard cubic foot
I&M	inspection and maintenance	SER	Significant Emission Rate
lb	pound(s)	SIC	Standard Industrial Code
MMBtu	million British thermal units	SIP	State Implementation Plan
NA	not applicable	SO ₂	sulfur dioxide
NESHAP	National Emissions Standards for Hazardous Air Pollutants	Special Control Area	as defined in OAR 340-204-0070
NO _x	nitrogen oxides	TACT	Typically Achievable Control Technology
NSPS	New Source Performance Standard	VE	visible emissions
NSR	New Source Review	VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months



State of Oregon
Department of
Environmental
Quality

SIMPLE AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

FXI, Inc.
3900 NE 158th Avenue
Portland, OR, 97230

Source Information:

SIC	3086
NAICS	326150
EPA ICIS-Air ID	

Source Categories (Table 1 Part, code)	Part B, 88
Public Notice Category	II

Compliance and Emissions Monitoring Requirements:

FCE	
Compliance schedule	
Unassigned emissions	
Emission credits	
Special Conditions	

Source test	
COMS	
CEMS	
PEMS	
Ambient monitoring	

Reporting Requirements

Annual report (due date)	February 15 th
Quarterly report (due dates)	

Monthly report (due dates)	
Excess emissions report	
Other (specify)	

Air Programs

Synthetic Minor (SM)	
SM -80	
NSPS (list subparts)	
NESHAP (list subparts)	000000
CAO	
NSR	

PSD	
GHG	
RACT	
TACT	
Other (specify)	

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PERMITTING

PERMITTEE IDENTIFICATION

1. FXI, Inc.
3900 NE 158th Avenue
Portland, OR 97230

PERMITTING ACTION

2. The proposed permit is a renewal of an existing Simple Air Contaminant Discharge Permit (ACDP) that was issued on 08/10/2016 and was originally scheduled to expire on 09/01/2020. The existing ACDP remains in effect until final action is taken on the renewal application because the permittee submitted a timely and complete application for renewal. The permittee is on a Simple ACDP because it is an area source of VOCs subject to a NESHAP, but without potential to emit greater than 100 tons per year.
3. FXI, Inc. has been determined to be an existing source for the purposes of Cleaner Air Oregon in accordance with OAR 340-245-0020 because the air quality permit application was submitted and deemed complete, or construction had commenced on this facility prior to November 16, 2018. As an existing source the permittee is required to perform a risk assessment in accordance with OAR 340-245-0050, and demonstrate compliance with the Risk Action Levels for an “Existing Source” in OAR 340-245-8010 Table 1 when called in by DEQ. FXI, Inc. has not been called in and therefore, has not performed a risk assessment.

OTHER PERMITS

4. Other permits issued or required by the DEQ for this source include: a storm water permit, 1200 COLS.

SOURCE DESCRIPTION

OVERVIEW

5. The permittee manufactures flexible polyurethane foam for mattresses. The process involves reacting chemical solutions, which is called “maxfoam” or “varimax” in the industry. The primary chemicals used are acetone, polyols, and TDI (toluene diisocyanate). The mixture of chemicals is fed into a trough, where foaming commences. The foaming agent is acetone. The foam spills onto a moving web plastic-coated paper, thus forming the basic rectangular shape of the product. The foam “bun” is further shaped, and then cut to specification. The buns (84 x 108 x 42”) are cured for about one day, and then sliced to correct size. The facility used to also use MDI (methylene diphenyl diisocyanate), but discontinued its use in 2015.

6. The TDI solution used in the carpet padding process as a binder (mixture used to pour foam) is 80% TDI (2,4), a HAP. The solution is delivered and moved through a closed loop system and applied with steam to bind the polyurethane scraps into padding. TDI (2,4) has very low vapor pressures and does not evaporate easily. Actual emissions of TDI (2,4) have been estimated at 0.0099 tons/year.
7. The facility was built in 1971.
8. A carbon scrubber drum was added to the outside of the TDI tanks since the last permit renewal. The drum is meant as a failsafe and does not reduce emissions.

PROCESS AND CONTROL DEVICES

9. Existing air contaminant sources at the facility consist of the following:
 - a. One (1) 72-hp, 3 MMBtu Dixon Scotch Marine boiler without emission controls, installed in 1995, which used 76,500 therms in 2019 and as such has categorically insignificant emissions.
 - b. The polyurethane foaming process produces about 0.0152 tons of fugitive VOCs/year.
 - c. Emissions of acetone, an unregulated pollutant, are approximately 3 tons/year.

COMPLIANCE HISTORY

10. The facility was inspected on 02/19/2020 and found to be in compliance with permit conditions.
11. During the prior permit period there were no complaints recorded for this facility.
12. No enforcement actions have been taken against this source since the last permit renewal.

EMISSIONS

13. Proposed PSEL information:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limits (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
VOC	N/A	0	0	39	39	0

- a. The proposed PSEL is equal to the Generic PSEL in accordance with OAR 340-216-0064(4)(b) and the netting basis is zero in accordance with OAR 340-222-0040(2).
- b. The previous PSEL is the PSEL in the last permit.
- c. Actual VOC emissions for the 12-month period ending December 2019 were 0.0152 tons.
- d. The facility previously used solvent-based glue, but switched to water-based glue in 2017. The solvent-based glue had been the source of almost all of their VOCs, so once they switched their average VOC emissions per year dropped from ~2-4 tons, to less than 0.05 tons/year.
- e. The PSEL is a federally enforceable limit on the potential to emit.
The facility's emissions of PM/PM10/PM2.5, SO₂, CO, and NO_x are de minimis, which is why PSELs for those criteria pollutants are not included in the permit.

SIGNIFICANT EMISSION RATE ANALYSIS

14. For each pollutant, the proposed Plant Site Emission Limit is less than the sum of the Netting Basis and the significant emission rate, thus no further air quality analysis is required at this time.

TITLE V MAJOR SOURCE APPLICABILITY

15. A major source is a facility that has the potential to emit 100 tons/year or more of any criteria pollutant or 10 tons/year or more of any single HAP or 25 tons/year or more of combined HAPs. This source is not a major source.
16. A source that has potential to emit at the major source levels but accepts a PSEL below major source levels is called a synthetic minor (SM). This source is not a synthetic minor.
17. A source that has the potential to emit above the Title V major source thresholds but is willing to take a limit that is 80% or greater of the major source thresholds (e.g., 80 tons per year or greater for criteria pollutants) is called a synthetic minor 80 (SM-80). This source is not an SM-80.
18. A source that has the potential to emit less than major source thresholds is called a true minor. This source is a true minor.
19. A source that has the potential to emit less than major source thresholds but is required by rule to obtain a Title V permit is called a Title V minor source. This source is not a Title V minor source.

CRITERIA POLLUTANTS

20. A major source is a facility that has the potential to emit 100 tons/year or more of any criteria pollutant or 10 tons/year or more of any single HAP or 25 tons/year or more of combined HAPs. This facility is not a major source of criteria pollutant emissions.

HAZARDOUS AIR POLLUTANTS

21. This source is not a major source of hazardous air pollutants. The basis for this determination can be found in the table below.

Hazardous Air Pollutants	Actual Emissions 2016 (pounds/year)	Potential Emissions 2016 (pounds/year)
Diethanolamine	10.16	13.65
Total HAP emissions	10.16	13.65

CLEANER AIR OREGON

22. The Cleaner Air Oregon Toxic Air Contaminant emissions inventory for this source can be found on this website: https://www.deq.state.or.us/AQPermitsonline/26-3266-SI-01_ATEI_2016.PDF
23. FXI, Inc. has been determined to be an existing source for the purposes of Cleaner Air Oregon in accordance with OAR 340-245-0020 because the air quality permit application was submitted and deemed complete, or construction had commenced on this facility prior to November 16, 2018. As an existing source the permittee is required to perform a risk assessment in accordance with OAR 340-245-0050, and demonstrate compliance with the Risk Action Levels for an “Existing Source” in OAR 340-245-8010 Table 1 when called in by DEQ. FXI, Inc. has not been called in and therefore, has not performed a risk assessment.

TOXICS RELEASE INVENTORY

24. The Toxics Release Inventory (TRI) is federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which DEQ has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, [chemicals covered by the TRI Program](#) are those that cause:
- a. Cancer or other chronic human health effects;

- b. Significant adverse acute human health effects; or
 - c. Significant adverse environmental effects.
25. There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical.
 26. FXI, Inc. reported the release of following TRI-listed chemicals for the year 2018:
 27. DEQ has copied this information from EPA’s TRI website and does not guarantee the accuracy of this information.

ON SITE RELEASES BY CHEMICAL

	Quantity Reported (Pounds)	Health Effects	
		Cancer	Other
DIETHANOLAMINE	NR		✓
TOLUENE DIISOCYANATE (MIXED ISOMERS)	101	✓	✓

Air
 Water
 Land
 NR - No on-site releases reported for this chemical

ADDITIONAL REQUIREMENTS

NEW SOURCE PERFORMANCE STANDARDS APPLICABILITY

28. There are no devices/processes at this facility for which a New Source Performance Standard has been promulgated. NSPS that appear applicable but do not apply to devices/processes at this facility are discussed below.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS APPLICABILITY

29. 40 CFR Part 63, Subpart III (10/98), Flexible Polyurethane Foam Production NESHAP does not apply to this facility because it is not a major source of HAPs.
30. 40 CFR Part 63, M MMMM (4/03), Flexible Polyurethane Foam Fabrication Operations NESHAP is not applicable to this facility. The regulation applies to loop slitter adhesive operations and flame lamination at major sources of HAPs. This facility is not a major source of HAPs.
31. 40 CFR Part 63, Subpart OOOOOO (7/07), Flexible Polyurethane Foam Production and Fabrication Area Sources NESHAP is applicable to this facility. The permit prohibits the use of methylene chloride at the facility. The only other applicable requirements are certification of compliance status and maintenance of supporting documents for a period of 5 years. These requirements are included in the permit.

32. The source is subject to the following updated federal standards or requirements that, at time of permit issuance, have not been adopted by the Environmental Quality Commission. For any violations of the following specific regulation, the permittee may be subject to enforcement action by EPA, but not DEQ. DEQ retains the authority to modify the permit or issue attachments as provided in Oregon Administrative Rule Chapter 340 Division 216 if the EQC adopts these regulations.

Applicable Federal Standards Not Yet Adopted by EQC			
40 CFR Part	Subpart	Federal Register Citation	Date of Promulgation
63	A - General Provisions	83 FR 56725	11/14/2018
63	A - General Provisions	84 FR 47882	09/11/2019

GREENHOUSE GAS REPORTING APPLICABILITY

33. The source is not subject to greenhouse gas reporting under division 215 because actual greenhouse gas emissions are less than 2,500 metric tons (2,756 short tons) of CO₂ equivalents per year. If the source ever emits more than this amount, they will be required to report greenhouse gas emissions.

REASONABLY AVAILABLE CONTROL TECHNOLOGY APPLICABILITY

34. The facility is located in the Portland AQMA, but it is not one of the listed source categories in OAR 340-232-0010, thus the categorical RACT rules do not apply. The facility has the potential to emit less than 100 tons of VOC per year and is not subject to source specific RACT.

TYPICALLY ACHIEVABLE CONTROL TECHNOLOGY APPLICABILITY

35. The source is likely meeting OAR 340-226-0130 Highest and Best Practicable Treatment and Control and Typically Achievable Control Technology (TACT) by:
- a. Conducting pollution prevention activities such as visually inspecting the TDI (2,4) delivery systems on a regular basis; and
 - b. Installing and operating a carbon scrubber control device that acts as an emission capture safeguard on the facility's TDI tanks.

PUBLIC NOTICE

36. Pursuant to OAR 340-216-0064(4)(a), issuance of Simple Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(b), which requires DEQ to provide notice of the proposed permit action and a minimum of 30 days for interested persons to submit written comments. **The public notice was emailed/mailed on October 8, 2020 and the comment period will end on November 7, 2020 at 5 p.m.**

Attachments:
FXI Emission Detail Sheet

External Combustion (Boiler, Oven, Dryer, Heater, Afterburner) EF in [lb/MMSCF]

76000 therms/year natural gas

7.24 mm cubic feet/year natural gas

	POLLUTANT ¹	CAS or DEQ ID	<10 MMBTU/hr	Emissions lbs/year	Emissions tons/year
	PM ² /PM ₁₀ /PM _{2.5}		2.5	18	0.01
	SO ₂ ³		1.7	12	0.01
	NO _x		100	724	0.36
	CO		84	608	0.30
	VOC		5.5	40	0.02
	GHG ⁴		120143	869604	435
HAP	Benzene	71-43-2	0.008	0.06	
HAP	Formaldehyde	50-00-0	0.017	0.12	
HAP	PAHs (excluding Naphthalene)*	401	0.0001	0.001	
HAP	Benzo[a]pyrene*	50-32-8	0.0000012	0.00001	
HAP	Naphthalene	91-20-3	0.0003	0.002	
HAP	Acetaldehyde	75-07-0	0.0043	0.03	
HAP	Acrolein	107-02-8	0.0027	0.02	
DEQ AT	Ammonia	7664-41-7	3.2	23	
HAP	Arsenic and compounds	7440-38-2	0.0002	0.001	
DEQ AT	Barium and compounds	7440-39-3	0.0044	0.03	
HAP	Beryllium and compounds	7440-41-7	0.000012	0.0001	
HAP	Cadmium and compounds	7440-43-9	0.0011	0.01	
HAP	Chromium VI	18540-29-9	0.0014	0.01	
HAP	Cobalt and compounds	7440-48-4	0.000084	0.001	
DEQ AT	Copper and compounds	7440-50-8	0.00085	0.01	
HAP	Ethylbenzene	100-41-4	0.0095	0.07	
HAP	Hexane	110-54-3	0.0063	0.05	
Criteria	Lead and compounds	7439-92-1	0.0005	0.00	
HAP	Manganese and compounds	7439-96-5	0.00038	0.003	
HAP	Mercury and compounds	7439-97-6	0.00026	0.002	
DEQ AT	Molybdenum trioxide	1313-27-5	0.00165	0.012	
HAP	Nickel and compounds	7440-02-0	0.0021	0.015	
HAP	Selenium and compounds	7782-49-2	0.000024	0.0002	
HAP	Toluene	108-88-3	0.0366	0.26	
DEQ AT	Vanadium (fume or dust)	7440-62-2	0.0023	0.017	
HAP	Xylene (mixture), including m-xylene, o-xylene, p-xylene	1330-20-7	0.0272	0.20	
DEQ AT	Zinc and compounds	7440-66-6	0.029	0.21	

¹ All criteria pollutant emission factors are from AP-42, Tables 1.4-1 and 1.4-2, except the PM/PM₁₀/PM_{2.5} and SO₂ factors.

² The PM/PM₁₀/PM_{2.5} emissions factor is a DEQ factor based on local testing.

³ The SO₂ emissions factor is a DEQ factor based on local sulfur content of natural gas (long term average = 6,000 grains/million cubic feet). Long term emissions factor = 6,000 grains S/million cubic feet x 1 pound/7,000 grains x 2 pounds SO₂/pound of S = 1.7 lb/million cubic of natural gas

⁴GHG emission factor from DEQ's Fuel Combustion GHG Calculator

*PAHs (except naphthlene): this value from SCAQMD AB2588 reporting is used for calculating cancer risk; benzo[a]pyrene AP-42 value is used for calculating noncancer risk