

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A )  
NEW AIR CONTAMINANT SOURCE AT ) **ORDER No. PROPOSED**  
FARWEST IRON WORKS, INC. )

To: **Farwest Iron Works, Inc.**  
**1301 South Columbia Street**  
**Wenatchee, Washington 98801**

1.0 PROJECT SUMMARY

On October 19, 2009, Farwest Iron Works, Inc. (“Farwest Iron Works”) submitted a Notice of Construction application to the Department of Ecology (“Ecology”) to install and operate one metal parts paint spraying booth and one aluminum welding unit at their existing metal fabrication facility located at 1301 South Columbia Street, in Wenatchee, Chelan County, Washington. The Notice of Construction application was revised on December 9, 2009.

The aluminum welding operation is the *Flux Cored Arc Welding* (FCAW) type, which uses consumable aluminum alloy electrodes to help generate the heat needed in the welding process. Because other welding and metal fabrication activities at the facility do not require Notice of Construction air quality permitting at this time, they have not been reviewed in this permitting action.

The Department of Ecology PROPOSES to APPROVE the project described above by issuing this ORDER. The approved spray paint booth and aluminum welding units will be located at Farwest Iron Works, located at 1301 South Columbia Street, in Wenatchee, Chelan County, Washington.

2.0 FINDINGS

In relation to the project description above, the Department of Ecology, State of Washington, pursuant to Revised Code of Washington (RCW) 70.94.152, makes the following determinations:

- 2.1 The proposed source qualifies as a new source of air contaminants under WAC 173-400-110 and a new source of toxic air pollutants under WAC 173-460-040.
- 2.2 The proposed source will be located in an area which is in attainment or unclassifiable for all criteria pollutants.

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- 2.3 The proposed source, if constructed and operated as herein required, will not delay the attainment date for an area not in attainment, nor cause or contribute to a violation of any ambient air quality standard.
- 2.4 The proposed source, if constructed and operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and Chapter 173-460 WAC, and the operation thereof, at the location proposed, will comply with all applicable new source performance standards, national emission standards for hazardous air pollutants, national emission standards for hazardous air pollutants for source categories, and emission standards adopted under Chapter 70.94 RCW.
- 2.5 The proposed source, if constructed and operated as herein required, will employ Best Available Control Technology (BACT) to control emission of criteria pollutants, and Best Available Control Technology for Toxics (tBACT) to control emission of toxic air pollutants.
- 2.6 The proposed source is subject to 40 CFR Part 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.
- 2.7 The proposed source is subject to 40 CFR Part 63, Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants: Nine Metal Fabrication and Finishing Source Categories.
- 2.8 Operation of the paint booth and aluminum welding units has satisfied the environmental review requirements of the State Environmental Policy Act (SEPA). A *Determination of Nonsignificance* (DNS) was issued by Washington State Department of Ecology, acting as lead agency, on December 14, 2009.

**3.0 ALLOWABLE EMISSIONS**

Under the ordered physical and operational conditions, maximum annual emissions from the paint booth and aluminum welding units will be:

<b>Pollutant</b>	<b>Paint Booth (Pounds per Year)</b>	<b>Aluminum Welding (Pounds per Year)</b>
Total Suspended Particulate (TSP)	95.9	0.06
Particulate Matter (PM <sub>10</sub> )	95.9	0.06
Particulate Matter (PM <sub>2.5</sub> )	95.9	0.06
Volatile Organic Compounds (VOC)	9,488.0	Not Quantified*
Toxic Air Pollutants (Total)**	5,399.2	0.02

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\*VOC emissions from this type of welding are insignificant. Emission rates for sulfur dioxide, nitrogen oxides, carbon monoxide and lead are also expected to be de minimis. \*\*Quantified toxic air pollutants include: arsenic, beryllium, cadmium, chromium (VI), cobalt, cumene, cyclohexane, ethylbenzene, ethylene glycol monobutyl ether, hexamethylene diisocyanate, n-hexane, isopropyl alcohol (isopropanol), lead, manganese, mercury (elemental), methyl alcohol, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene chloride, naphthalene, propylene glycol monomethyl ether, silica (crystalline, respirable), styrene, toluene, vanadium, and xylenes (m-, o-, p- isomers).

**4.0 BEST AVAILABLE CONTROL TECHNOLOGY (BACT)**

As required by WAC 173-400-113(2), this project will employ BACT to control emission of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, lead and volatile organic compounds. Ecology has determined the following to be BACT for the project:

**Paint Booth**

- 4.1 The use of a high volume, low pressure (HVLP) spray gun, or other spray gun demonstrated to have **a transfer efficiency of 65 percent**, or higher, for the specific paint application.
- 4.2 The use of high efficiency particle removal filters fitted with fiberglass or polyester fiber filters or some other filter technology that is demonstrated to achieve **at least 98 percent capture efficiency** of paint overspray.
- 4.3 Conducting of all surface coating in an enclosed spray paint booth.

**Aluminum Welding Unit**

- 4.4 The use of a welding fume capture and control system, fitted with high efficiency particle filters that are capable of capturing **at least 99%** of welding fumes.

**5.0 BEST AVAILABLE CONTROL TECHNOLOGY FOR TOXICS (tBACT)**

As required by WAC 173-460-040(3)(a), this project will employ tBACT to control emission of toxic air pollutants. tBACT for this project is determined to be the same as BACT described in 4.0 above.

**6.0 AMBIENT IMPACTS ANALYSIS**

Ambient impacts of the stationary source were modeled using SCREEN3, a screening dispersion model recommended by EPA. Modeling results show that all potential criteria and toxic air pollutant emissions, after the application of BACT and tBACT, will comply with the ambient air quality standards and the requirements of Chapter 173-460 WAC, New Sources of Toxic Air Pollutants, respectively.

**THEREFORE, IT IS ORDERED** that the project as described in the Notice of Construction application submitted by Farwest Iron Works, and more specifically detailed in plans, specifications and other information submitted to the Department of Ecology in reference thereto,

is approved for construction, installation and operation, provided the following conditions are met:

7.0 APPROVAL CONDITIONS

7.1 LAWS AND REGULATIONS

- 7.1.1 Farwest Iron Works shall comply with all applicable state laws and regulations, including Chapter 70.94 RCW, Washington Clean Air Act; Chapter 173-400 WAC, General Regulations for Air Pollution Sources; and Chapter 173-460 WAC, Controls for New Sources of Toxic Air Pollutants.
- 7.1.2 Farwest Iron Works shall comply with all applicable provisions of 40 CFR Part 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.
- 7.1.3 Farwest Iron Works shall comply with all applicable provisions of 40 CFR Part 63, Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants: Nine Metal Fabrication and Finishing Source Categories.

7.2 PRODUCTION AND EQUIPMENT RESTRICTIONS

- 7.2.1 Farwest Iron Works shall not consume more than 100 pounds of welding rod in the aluminum welding unit in any consecutive 12-month period.
- 7.2.2 Use and application of coatings and solvents shall not exceed the following:

Coatings & Solvents	Maximum Consumption	
	Gallons per Day	Gallons per Year*
Primers	10	300
Basecoats	4	100
Clearcoats	4	100
Reducers, Gun Cleaners and Thinners	5	150
Hardeners and Activators	0.5	10
Waterbase Coatings	25	660
Other specialty products	0.5	10

\*Twelve (12) consecutive months.

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7.2.2 Hexamethylene diisocyanate (HDI) is only allowed in hardeners, activators or converters. The use of any other paint product, which contains HDI is prohibited by this Order.

7.2.3 The use of hardeners, activators or converters containing hexamethylene diisocyanate (HDI) is further restricted as follows:

<b>If the percentage of HDI in the hardener, activator or converter is:</b>	<b>Do not use more than this amount of that product:</b>
0 - 10%	10 Gallons per year
11 - 20%	6 Gallons per year
21 - 30%	4 Gallons per year
31 - 40%	3 Gallons per year
41 - 60%	2 Gallons per year
61 - 90%	1 Gallons per year
>90%	Not Allowed

7.2.4 Regulated metallic components found in any paint product shall not exceed the following proportions in the paint product:

<b>Metallic component</b>	<b>Maximum percentage by weight in the paint product</b>
Arsenic	0.002 %
Beryllium	0.003 %
Cadmium	0.001 %
Chromium (VI)	0.00002 %
Cobalt	0.1 %
Lead	0.5 %
Manganese	0.05 %
Mercury	0.1 %
Vanadium	0.3 %

7.2.5 As currently permitted, paint products shall not contain the following toxic air pollutants in quantities that exceed the specified proportions:

<b>Pollutant</b>	<b>Maximum Percentage by Weight in the Paint Product (%)</b>					
	Basecoats	Clearcoats	Primers	Hardeners & Activators	Reducers, Gun Cleaners, & Thinners	Specialty Paint Products
Crystalline silica	3.00	32.30	0.50	None	None	None
Ethyl benzene	2.69	2.03	2.58	0.61	20.00	2.04
Xylenes (m-, o-, p-isomers)	19.00	10.44	8.53	3.02	80.00	9.55

### 7.3 EMISSION LIMITS

- 7.3.1 Annual emissions shall not exceed the quantities in section 3.0 above.
- 7.3.2 Visible emissions from any emission unit shall not exceed ten (10) percent opacity.
- 7.3.3 No visible emissions, generated by the source, shall be allowed beyond the property boundary.
- 7.3.4 Odor from the project shall not be detectable beyond the facility's property line. Violation of the odor requirement shall be subject to any or all of the remedies provided in Chapter 70.94 RCW, for violation of an Ecology Order. In the event odor becomes a problem, Ecology may order the permittee to take specific measures to control odor. These measures may include the installation of additional pollution control devices.

### 7.4 OPERATION AND MAINTENANCE

- 7.4.1 At all times, Farwest Iron Works shall control air emissions from the aluminum welding unit and paint booth by implementing the emission controls and restrictions identified in sections 4.0 and 5.0 of this Order.
- 7.4.2 The paint booth shall be continuously ventilated to maintain negative pressure in the paint booth with respect to the outside air, while any surface coating is conducted inside the paint booth. No surface coating shall be conducted outside the paint booth.
- 7.4.3 The paint spray booth's exhaust filters must completely seal the openings to the exhaust ducting such that no gaps or leaks exist. A manometer shall be used to monitor the pressure drop across the spray booth filters.
- 7.4.4 Exhaust passing through the paint booth's high efficiency filters shall be routed through an unobstructed, vertical stack. The top of the exhaust stack shall be at least 3.5 feet above the penetration point of the spray booth's roof to allow for better dispersion of pollutants. The overall stack height shall extend at least 33 feet from ground level. Internal stack dimensions shall be in accordance with plans and specifications submitted as part of the Notice of Construction application.

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- 7.4.5 If visual inspection for opacity, public complaints, or other information indicates that excessive emissions can be observed exiting the paint booth's exhaust stack, the permittee shall take immediate steps to bring the spray booth back into compliance with the 10% opacity limitation. All corrective actions undertaken shall be adequately documented, and available for inspection by Ecology upon request.
- 7.4.6 Except as provided under Condition 7.4.8 below, the exhaust filters used in the spray booth and aluminum welding unit shall be replaced as often as necessary to ensure that capture efficiencies of at least 98% and 99% of paint overspray and welding fumes, respectively, can be achieved. The permittee shall follow all recommended installation, operation, and maintenance provisions supplied by the filter manufacturer manufacturers.
- 7.4.7 The spray booth and aluminum welding unit shall be maintained in good operating condition. The source shall be operated and maintained in accordance with a site-specific operation and maintenance (O&M) manual, to be prepared by the permittee. The O&M manual shall be updated to reflect any modifications to the source or operating procedures. Failure to follow the requirements of the O&M manual, or the adequacy of the O&M manual, may be considered proof that the equipment was not properly operated and maintained. The manual shall reflect standard operating procedures to be followed by all equipment operators, including:
- 7.4.7.1 Normal operating parameters for each emissions unit, including the normal (desired) differential pressure range across the spray booth filters;
  - 7.4.7.2 A maintenance schedule for each emissions unit;
  - 7.4.7.3 Monitoring and record keeping requirements;
  - 7.4.7.4 A description of the monitoring procedures;
  - 7.4.7.5 Actions for abnormal control system operation;
  - 7.4.7.6 Filter media specifications; and
  - 7.4.7.7 A requirement that the spray booth and aluminum welding unit shall not be operated unless all exhaust air and welding fumes pass through properly operating high efficiency exhaust filters.

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7.4.8 The paint booth's exhaust filters shall be changed within 24 hours after the pressure drop across the filters falls out of the normal differential pressure range prescribed in the O&M manual.

7.4.9 As required by WAC 173-400-101, the O&M manual shall be reviewed and updated by the source owner or operator at least annually. O&M records shall be available for inspection by Ecology, organized in a readily accessible manner, and retained for at least five (5) years.

## 7.5 TESTING REQUIREMENTS

7.5.1 To demonstrate compliance, Ecology may order performance testing for any of the regulated air contaminants identified in this Order, in accordance with EPA or other Ecology approved methods.

7.5.2 Written results of all required testing shall be submitted to Ecology within 30 days of occurrence.

## 7.6 RECORDKEEPING AND REPORTING REQUIREMENTS

Farwest Iron Works shall maintain sufficient records to enable Ecology to verify that the approved emission units are operating in compliance with this Order. Records of all data required by this Order shall be maintained in a readily retrievable manner for a period of five (5) years or more, and be made available on-site to authorized representatives of Ecology during any site inspection. At a minimum, Farwest Iron Works shall maintain the following records:

7.6.1 Monthly records of hours of operation of the paint booth and aluminum welding unit.

7.6.2 Monthly usage of aluminum welding rod, coatings and solvents. Records shall be summed monthly to demonstrate use over the previous 12-month period. Purchase records may be kept in lieu of usage records, with the assumption that all purchased material is used during the reporting period.

7.6.3 Material Safety Data Sheets (MSDS) for each coating and solvent used in the paint booth.

7.6.4 Material Safety Data Sheets (MSDS) for each welding rod type used in the aluminum welding unit.

7.6.5 Results from all required emission testing conducted on the spray booth and aluminum welding unit.

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7.6.6 The date and nature of all maintenance activities performed on the spray booth and welding fume capture system, including records of the dates when filters are changed. Maintenance and filter change records shall be kept on-site and made available to Ecology personnel upon request. All records shall be organized in a readily accessible manner, and retained for at least five (5) years.

7.6.7 All air quality complaints received from the public, Ecology, or any other entity. Any complaints resulting from operation of the approved emission units shall be promptly assessed and addressed. A record shall be maintained of the permittee's action to investigate the validity of the complaint and what, if any, corrective action was taken in response to the complaint. Ecology shall be notified within three (3) days of receipt of any complaint.

**7.7 GENERAL CONDITIONS**

7.7.1 No particulate matter from the project shall be deposited beyond the property boundary in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.

7.7.2 All outdoor burning shall be performed according to Chapter 173-425 WAC, Outdoor burning.

7.7.3 To the extent practicable, the exhaust stack(s) shall be designed to increase dispersion of exhaust gases by limiting bends, obstructions, non-vertical discharges, and building interference with plume dispersion.

7.7.4 This Order shall become invalid if construction of the approved emission units is not commenced within 18 months after receipt of final approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. Ecology may extend the 18-month period upon a satisfactory showing that an extension is justified.

7.7.5 It shall be grounds for rescission of this approval if physical operation of the stationary source is discontinued for a period of eighteen (18) months or more. Ecology may extend the 18-month period upon a satisfactory showing that an extension is justified.

7.7.6 Emissions inventory information and other information may be requested by Ecology. Unless otherwise specified, emissions information requested by Ecology shall be submitted within 30 days of receiving the request.

7.7.7 Access to the source by the United States Environmental Protection Agency or the Department of Ecology shall be permitted upon request for the purpose of

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compliance assurance inspections. Failure to allow access is grounds for revocation of the Order approving the Notice of Construction application.

- 7.7.8 Operation of equipment must be conducted in compliance with all data and specifications submitted as part of the Notice of Construction application unless otherwise approved by Ecology. Any activity undertaken by Farwest Iron Works, or others, in a manner which is inconsistent with the application or this Order, shall be subject to Ecology enforcement under applicable regulations.
- 7.7.9 Nothing in this approval shall be construed as obviating compliance with any requirement of law other than those imposed pursuant to the Washington Clean Air Act and rules and regulations thereunder. Any violation of such rules and regulations or of the terms of this approval shall be subject to the sanctions provided in Chapter 70.94 RCW.
- 7.7.10 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.
- 7.7.11 Legible copies of this Order and the O&M manual shall be on-site in a location known by and available to employees in direct operation of the described equipment, and available to Ecology upon request.

All plans, specifications and other information submitted to the Department of Ecology relative to this project and further documents and any further authorizations or approvals or denials in relation thereto, are hereby incorporated and made a part of this Order.

Authorization may be modified, suspended or revoked in whole or part for cause, including, but not limited to, the following:

- I. Violation of any terms or conditions of this authorization;
- II. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization or application of any provision to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this authorization, shall not be affected thereby.

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**APPEAL INFORMATION:**

You have a right to appeal this permit. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the “date of receipt” of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the “date of receipt” of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). “Date of receipt” is defined at Revised Code of Washington (RCW) 43.21B.001(2).

Be sure to do the following:

- Include a copy of (1) the permit you are appealing and (2) the application for the permit.
- Serve and file your appeal in paper form; electronic copies are not accepted.

**1. To file your appeal with the Pollution Control Hearings Board**

Mail appeal to:

The Pollution Control Hearings Board  
PO Box 40903  
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board  
4224 – 6th Ave SE Rowe Six, Bldg 2  
Lacey, WA 98503

**2. To serve your appeal on the Department of Ecology**

Mail appeal to:

The Department of Ecology  
Appeals Coordinator  
P.O. Box 47608  
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology  
Appeals Coordinator  
300 Desmond Dr SE  
Lacey, WA 98503

**3. And send a copy of your appeal to:**

Susan Billings  
Department of Ecology  
Central Regional Office  
15 West Yakima Avenue, Suite 200  
Yakima, Washington 98902-3452

*For additional information, visit the Environmental Hearings Office Website:*

*<http://www.eho.wa.gov>*

*To find laws and agency rules, visit the Washington State Legislature Website:  
<http://www1.leg.wa.gov/CodeReviser>*

**DATED at Yakima, Washington this 23<sup>rd</sup> day of February, 2010.**

**Reviewed By:**

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David Ogulei, Ph.D., P.E.  
Air Quality Program  
Department of Ecology

**Approved By:**

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Susan M. Billings  
Air Quality Section Manager  
Department of Ecology

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