

## I. INTRODUCTION

Wheatland Tube Co., Chicago Division (Wheatland) has applied for a Joint Construction and Operating Permit for a new continuous steel tube mill (Mill #3). The project is being undertaken in order to increase the production capability of its Chicago facility. The potential increase in emissions of volatile organic material (VOM) from Mill #3 is significant.

## II. SOURCE DESCRIPTION

### General Process Description:

Wheatland Tube Company, Chicago Division manufactures steel tubing. The process begins with the cleaning of steel strip with a pressurized alkaline (No volatile organic material) cleaning system. The strip is cold formed with a steel-rolling system consisting of progressive dies into the tubular cross-section. The strip is electrically welded into a tube. The tube is then cleaned, rinsed, and pickled with a hydrochloric acid solution in a fumeless pickling system. After a final rinse, the tube is induction heated to approximately 800EF (. 427EC). Induction heating prepares the tube for a application of molten zinc galvanizing to the exterior of the tube. After galvanizing the tube is cooled with a water-quench. The tube is then Afinal® formed to specified dimensions and coated with a corrosion resistant chromate solution. After the chromate solution is applied, a UV coating (No VOCs) is applied to the exterior products. The final process involves cutting the finished product continuously coming off the end of the line to length.

### Interior Coating Process:

The interior surface of the tube is sprayed with a corrosion resistant and friction reducing coating. This coating is applied with a paint lance that is inserted into the tube approximately 13' beyond the welding point. The interior coating is sprayed in a nitrogen atmosphere and cures during the manufacturing process, thus eliminating the need for a drying oven.

## III. REVIEW OF EMISSIONS

The potential VOM emissions from the proposed new Mill #3 are 76 tons/year. These emissions are minimized by use of very low VOM content coating. A further explanation of the required level of VOM control can be found in Section VI.

This project is a significant modification for VOM emissions with respect to Non-Attainment Area New Source Review regulations (35 IAC Part 203) because the new Mill #3 will have the potential to emit more than 25 tons of VOM/year. The increase in VOM emissions as a result of this project is projected at 76 tons/year.

## IV. APPLICABLE EMISSION STANDARDS

### State Emission Standards

All emission sources in Illinois must comply with Illinois Pollution Control Board emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. This site readily complies with applicable Board standards.

The proposed new Mill #3 is subject to VOM limitations found at 35 IAC 218.204. This regulation requires that the facility either utilize low VOM coatings or conventional VOM coatings with an add-on control device on Mill #3.

V. ADDITIONAL REQUIREMENTS FOR MAJOR PROJECTS

Construction and operation of a new major source or a modification which results in a significant increase in emissions is subject to one of two new source review requirements.

The particular regulations that apply depend on the air classification of the area in which the project is located. If an area is classified as nonattainment for the pollutant (meaning air pollution levels exceed the established air quality standard), the regulations for Major Stationary Sources Construction and Modification (MSSCAM) apply. If an area is classified as attainment (i.e., meeting the standards), the rules for Prevention of Significant Deterioration (PSD) apply.

This project is in an area classified as nonattainment for ozone and VOM emissions must be controlled because they are ozone precursors.

Summary of Emissions (Tons/Year)

<u>Pollutant</u>	<u>Significant Emissions Level</u>	<u>Project Emissions</u>
Volatile Organic Material	25	76

This project is subject to MSSCAM for VOM as its emissions are greater than 25 ton/yr.

VI. MAJOR STATIONARY SOURCE CONSTRUCTION AND MODIFICATION (MSSCAM)

For a major project, the rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203) require: 1) an emission limit which represents the Lowest Achievable Emission Rate (LAER), 2) compensating emission reductions from other sources commonly called offsets, 3) an analysis of alternatives to the project, and 4) proof that other existing major sources owned by the source within Illinois are in compliance with applicable air pollution regulations. A discussion of these requirements for VOM emissions follows.

A. Lowest Achievable Emission Rate (LAER)

LAER is defined at 35 IAC 203.301 as:

The most stringent rate of emissions based on the following:

1. The lowest emission limitation which is contained in the implementation plan of any state for such class or category of stationary source, unless it is demonstrated that such limitation is not achievable;
2. The lowest emission limitation which is achieved in practice or is achievable by such a class or category of stationary source; or
3. The applicable new source performance standard.

The Mill #3 will be required to implement LAER. Wheatland prepared a LAER demonstration identifying the control techniques and emission limits required of other similar operations to control VOM. This demonstration included information from the USEPA BACT/LAER Clearinghouse, which showed, for this operation, that there were no approaches for VOM control.

The Illinois EPA determined that LAER for this new Mill #3 is the use of very low VOM content coating material for the interior coating and VOM free coating for the exterior. Wheatland evaluated the possibility of water based coating material and further control VOM emission by an afterburner. The following VOM content coating material is considered as LAER for Mill #3.

- 2.6 lb VOM/gal for other tubing.
- 1.8 lb VOM/gal for conduit electrical tubing.

BACT/LAER Clearinghouse has also been reviewed for similar operation to determine required control technologies across the United States. There is no BACT/LAER determination for similar operation in BACT/LAER clearinghouse.

B. Emission Offsets

Wheatland obtains creditable emission decreases or offsets from a reserve managed by the City of Chicago. This reserve is the result of a contribution of emission reduction to the city by 3M, Bedford Park. 3M improved the control system on existing lines beyond the level required by applicable rules.

The emissions associated with a major project in a nonattainment area must not interfere with the state plan to achieve attainment of the national air quality standards.

This plan consists of new programs and regulations designed to achieve the national standards and is based on a detailed analysis of current and projected emission and air quality levels. In order to account for the emissions increase from a major project proposed in a nonattainment area, the applicant must provide compensating emission reductions from other sources that have not been relied on in the attainment plan. These emission reductions are commonly referred to as emission offsets.

Because the Chicago Area is a severe ozone nonattainment area, emission offsets at a ratio of 1.3:1.0, i.e., for each ton of VOM emissions from a project, 1.3 ton of offsets must be provided. At this ratio, the applicant is required to provide an emission offset of 76.0 tons/year for this project.

Since Mill #3 alone has emission increase of 76.0 tons VOM/year, an offset of 98.8 tons VOM/year has been secured prior to construction of this Mill #3.

C. Certification of Existing Source Compliance

Wheatland has only this major plant located in Illinois: the Chicago facility at which the proposed expansion will take place. The Illinois EPA has verified the applicants statement that this plant has been in compliance with all Illinois air pollution regulations.

D. Analysis of Alternatives to the Proposed Project

Wheatland has provided an analysis of alternatives that concludes that from an economic, environmental, and energy conservation viewpoint, the proposed project presents a better choice than other alternatives, (i.e., building the plant elsewhere).

VII. REQUEST FOR COMMENTS AND PROPOSED HEARING

It is the Illinois EPA's determination that the proposed project meets all applicable state and federal air pollution control equipment, subject to the conditions proposed in the draft permit. The Illinois EPA therefore is proposing to issue a permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public concern is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.