

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation and Statement of Basis for Initial

MAJOR FACILITY REVIEW PERMIT

for
**United Spiral Pipe, LLC
Facility B8478**

Facility Address:
900 East Third Street
Pittsburg, CA 94565

Mailing Address:
900 East Third Street
Pittsburg, CA 94565

BAAQMD Engineer: Robert T. Hull

Application No: 23464

April 2012

TABLE OF CONTENTS

A.	Background	3
B.	Facility Description	3
C.	Permit Content.....	4
I.	Standard Conditions.....	4
II.	Equipment	4
III.	Generally Applicable Requirements	5
IV.	Source-Specific Applicable Requirements	5
V.	Schedule of Compliance	7
VI.	Permit Conditions	7
VII.	Applicable Limits and Compliance Monitoring Requirements	8
VIII.	Test Methods.....	9
IX.	Permit Shield.....	9
X.	Revision History	9
D.	Alternate Operating Scenarios:	9
E.	Compliance Status:.....	9
F.	Differences between the Application and the Proposed Permit:	10
G.	Permit Shield:	10
	APPENDIX A BAAQMD COMPLIANCE REPORT	11
	APPENDIX B GLOSSARY	14
	APPENDIX C PERMIT APPLICATION ENGINEERING EVALUATIONS	20

Title V Statement of Basis

A. Background

United Spiral Pipe, LLC is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it has combined operations with USS-POSCO Industries (BAAQMD Facility A2371), a major facility. United Spiral Pipe is sited on the property of USS-POSCO and shares rail and shipping operations with them. Therefore for the purposes of Major Facility Review, these two operations are considered to be a single “facility” as defined by BAAQMD Regulation 2-6-206.

Although combined for major facility applicability purposes, the companies are separate and have different management structures. Therefore, they have elected to obtain separate Title V permits from the BAAQMD. USS-POSCO currently has a Title V permit; this will be the initial Title V permit for United Spiral Pipe.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is B8478.

B. Facility Description

United Spiral Pipe, LLC (USP) began as a joint venture between US Steel, POSCO, and SeAH Steel to start the first spiral-welded pipe manufacturing facility in the United States. The facility is located at 900 East 3rd Street, Pittsburg, CA; within the 490-acre property currently owned and occupied by USS-POSCO Industries (UPI). The facility is designed to manufacture large diameter steel pipe from coiled steel for use in the oil and gas pipeline transmission industry. The manufacturing process includes spiral forming and welding, cutting and edging, quality testing, abrasive blast cleaning, and coating. The facility will use existing UPI shipping and rail to transport raw materials and finished pipe products to and from the site.

Potential emissions from the USP facility alone are far below Major Facility Review triggers.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Changes to the standard permit text have been made since the initial Title V Permit for this site was issued. These changes are reflected in the new proposed permit in strikeout/underline format.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-2).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

The District has reviewed the operations at United Spiral Pipe and concluded that there are no sources at this facility that are exempt and significant, as defined above.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-4). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued an authority to construct and/or permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are

issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered *significant sources* pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations:

Applicability of 40 CFR 64, Compliance Assurance Monitoring (CAM)

The Compliance Assurance Monitoring (CAM) regulation in 40 CFR 64 was developed to provide assurance that facilities comply with applicable emissions limitations by adequately monitoring control devices. The CAM rule was effective on November 21, 1997. However, most facilities are not affected by CAM requirements until they submit applications for Title V permit renewal.

CAM applies to a source of criteria pollutant or hazardous air pollutant (HAP) emissions if all the following requirements are met:

- The source is located at a major source for which a Title V permit is required; and
- The source is subject to a federally enforceable emission limitation or standard for a criteria pollutant or HAP; and
- The source uses a control device to comply with the federally enforceable emission limitation or standard; and
- The source has potential pre-control emissions of the regulated pollutant that are equal to or greater than the major source threshold for the pollutant (in BAAQMD, the major source thresholds are 100 tons per year for each criteria pollutant, 10 tons per year for a single HAP, and 25 tons per year for two or more HAPs); and
- The source is not otherwise exempt from CAM.

The applicability of compliance assurance monitoring (CAM) must be considered at this facility because the facility uses emission control devices (Baghouses A-2, A-13, A-15, and A-17) to achieve compliance with a federally enforceable emission limit (BACT PM limit of 0.006 gr/dscf outlet grain loading).

USP has a permitted pipe production limit of 300,000 tons/yr. It is therefore conceivable that PM emissions from any of the pipe cleaning and surface preparation operations (S-2: Pipe Inside Cleaning Machine, S-8: Pipe Inside Suction Machine, and S-10: External Abrasive Blasting) could exceed 100 tons/yr without the use of controls. Since there is little evidence to the contrary, the BAAQMD must assume that CAM applies for this equipment.

The External Powder Coating operation S-11 is permitted to use up to 364 tons per year of epoxy powder coating. Although it is inconceivable that a property functioning powder coating would have overspray equivalent to 27.5% of the product (i.e. 100 tons), this operation will also be included under CAM, so that all baghouses are subject to the same requirements.

CAM requires that the permit holder design a monitoring system to obtain data for one or more indicators of emission control performance. These performance indicators must include a range or designated condition(s) such that operation within the specified parameters provides a reasonable assurance of ongoing compliance with the applicable emissions standard.

The BAAQMD has taken CAM into consideration in the permit conditions for the baghouses. Permit Condition #23816 requires that a pressure drop range be established by the facility for proper baghouse operation. The facility will monitor and record the pressure drop and perform visual inspections of the baghouse exhaust on at least a daily basis. Any operation outside of the

established pressure drop range or evidence of visible emissions will require a full inspection of the baghouse and any necessary maintenance or repair. Records of all monitoring inspections and corrective actions will be maintained by the facility.

Applicability of 40 CFR 63, Subpart M NESHAP for Surface Coating of Miscellaneous Metal Parts and Products

The External Epoxy Coating Operation (S-11) is a powder coating operation for the exterior surfaces of finished pipe products. The MSDS for the powder coating to be used at S-11 indicates that the product contains no Federal Hazardous Air Pollutants (HAPs). Therefore, in accordance with Section 63.3881(b), S-11 is not subject to the subpart.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

VI. Permit Conditions

Permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

Each permit condition is identified with a unique numerical identifier, up to five digits. When necessary to meet applicable requirements, additional monitoring, recordkeeping, or reporting will be added to the permit.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **CAM:** This term is used for a condition imposed by the APCO to ensure compliance with a Compliance Assurance Monitoring requirement.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- **Offsets:** This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- **PSD:** This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- **TRMP:** This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

The District has examined the monitoring for all applicable emissions limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields.

X. Revision History

Initial Issuance:

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

A March 5, 2012 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of United Spiral Pipe LLC, Site #B8478. This review was initiated as part of the District evaluation of an application by MCLP for a renewal of their Title V permit.

The Compliance and Enforcement Division staff conducted an initial compliance verification inspection of the site on 2/8/12 and found no outstanding facility issues. This facility is new and has no violation history. No Title V compliance schedule was requested.

Permit Evaluation and Statement of Basis: Site #B8478, United Spiral Pipe, LLC,
900 E. 3rd Street, Pittsburg, CA 94565

F. Differences between the Application and the Proposed Permit:

BAAQMD Permit Application #23464 is the basis for the Initial Title V Permit for this facility. There are no significant differences between what is represented in the application and what appears in the proposed permit.

G. Permit Shield:

This facility has no permit shields.

H:\Engineering\TITLE V Permit Appls\1 ALL T5 Application Files here\B8478\Initial - 23464\INIT-SOB

Permit Evaluation and Statement of Basis: Site #B8478, United Spiral Pipe, LLC,
900 E. 3rd Street, Pittsburg, CA 94565

APPENDIX A

BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

March 5, 2012

TO: JIM KARAS – DIRECTOR OF ENGINEERING *SK 3/13/12*

FROM: BRIAN BATEMAN – DIRECTOR OF COMPLIANCE & ENFORCEMENT *BB 3/8/12*

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

UNITED SPIRAL PIPE, LLC; SITE #B8478

Background

This review was initiated as part of the District evaluation of an application by UNITED SPIRAL PIPE, LLC (USP) for a Title V Permit. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of an issuance of a Title V Permit to Operate. The purpose of this review is to ensure that any non-compliance problems have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

USP is a custom steel line pipe facility located in Pittsburg, CA. USP is capable of producing annually 300,000 net tons of spiral welded pipe in outside diameters ranging from 24" to 64", wall thickness' from .250" to 1", and grades up to X80.

Compliance Review

1. Violation History

On 2/8/12, staff conducted a compliance verification inspection of UNITED SPIRAL PIPE, LLC, and found no outstanding facility issues. Since the issuance of USP's District permit on **6/26/07 through 3/5/12**, UNITED SPIRAL PIPE, LLC did not receive any notices of violation.

REVIEW OF COMPLIANCE RECORD OF
UNITED SPIRAL PIPE, LLC; SITE #B8478
March 5, 2012
Page 2 of 2

2. Complaint History

The District did not receive any air pollution complaints alleging UNITED SPIRAL PIPE, LLC as the source during the period, 6/26/07 through 3/5/12.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Between 6/26/07-3/5/12, USP was not permitted as a Title V facility pursuant to District Regulation 2, Rule 6, Major Facility Review. During the review period, USP did not report any RCA's.

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for UNITED SPIRAL PIPE, LLC during the period, 6/26/07 through 3/5/12.

Conclusion

Following the review of all available facility and District compliance records from the date of issuance of USP's District permit until the present (6/26/07 to 3/5/12), the District's Compliance and Enforcement Division has determined that USP was in compliance with applicable requirements.

Based on this review, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current draft Title V permit.

RJS 3/5/12

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority that allows the District to impose requirements.

BHP (bhp)

Brake Horsepower, see Units of Measure

BTU

British Thermal Unit. See units of measure.

BUG

Backup Generator (Emergency)

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cu Ft

Cubic foot = ft³, see Units of Measure

Cu M

Cubic meter = m³, see Units of Measure

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

DG

Digester Gas

District

The Bay Area Air Quality Management District

DSCF (dscf)

Dry Standard Cubic Feet, see Units of Measure

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

HHV

Higher Heating Value: The heat extracted by a reaction assuming all water vapor is condensed within the process, and the resulting heat of condensation recovered for useful work.

LHV

Lower Heating Value: The heat extracted by a reaction assuming all water vapor goes out the exhaust stack with none of the heat of condensation recovered for useful work.

Mole

Quantity of a compound. One mole of a compound is estimated to have 6.023×10^{23} molecules ($6.023 \text{ E } +23$) of the respective compound.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

Microgram

Unit of weight. 1 microgram (μg) = $1/1,000,000^{\text{th}}$ of a gram or 1 millionth of a gram.

MM Btu/hr

Million BTU per hour.

MW

Molecular Weight. The weight of one mole or $6.023 \text{ E}23$ molecules of a compound.

PPM

Unit of concentration. Part Per Million. For vapor ppm is equivalent to a molar or volumetric concentration. For liquids and solids ppm is essentially equivalent to a weight fraction. See Units of Measure.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NOV

Notice of Violation

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

POTW

Publicly Owned Treatment Works. Also known as wastewater treatment plant (WWTP) or sewage treatment plant (STP)

PPMV

Parts Per Million, by Volume. See Units of Measure.

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

PTE

Potential to emit

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2

Sulfur dioxide

STP

Sewage Treatment Plant. Also known as a publicly owned treatment works (POTW) or wastewater treatment plant (WWTP).

THC

Total Hydrocarbons (NMHC + Methane)

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
m ³	=	cubic meter
min	=	minute
mm	=	million

MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

Permit Evaluation and Statement of Basis: Site #B8478, United Spiral Pipe, LLC,
900 E. 3rd Street, Pittsburg, CA 94565

APPENDIX C

PERMIT APPLICATION ENGINEERING EVALUATIONS

Engineering Evaluations for the following permit applications are attached to the Statement of Basis in this Appendix.

<u>AN</u>	<u>TITLE</u>
16186	Spiral Pipe manufacturing Plant

**ENGINEERING EVALUATION REPORT
UNITED SPIRAL PIPE, LLC
APPLICATION NUMBER 016186**

PROPOSED PROJECT:

United Spiral Pipe, LLC (USP) is a joint venture between US Steel, POSCO, and SeAH Steel to start the first spiral-welded pipe manufacturing facility in the United States. The proposed facility will be located at 900 East 3rd Street, Pittsburg, CA; within the 490-acre property currently owned and occupied by USS-POSCO Industries (UPI). The facility is designed to manufacture large diameter steel pipe from coiled steel for use in the oil and gas pipeline transmission industry. The manufacturing process includes spiral forming and welding, cutting and edging, quality testing, abrasive blast cleaning, and exterior and interior coating processes. The facility will use existing UPI shipping and rail to transport raw materials and finished pipe products to and from the site.

This application is for an Authority to Construct and Permit to Operate the following:

Source List

- S-1: Tack Welding – Spiral Pipe Mill; Shielded Arc Welding (Exempt)
- S-2: Pipe Inside Cleaning Machine; Atis, 300,000 tons/yr
- S-3: Pipe Inside Cleaning Machine; Atis, 300,000 tons/yr
- S-4: Submerged Arc Final Welding Stand; Atis, 100,000 tons/yr (Exempt)
- S-5: Submerged Arc Final Welding Stand; Atis, 100,000 tons/yr (Exempt)
- S-6: Submerged Arc Final Welding Stand; Atis, 100,000 tons/yr (Exempt)
- S-7: Submerged Arc Final Welding Stand; Atis, 100,000 tons/yr (Exempt)
- S-8: Pipe Inside Suction Machine; Atis, 300,000 tons/yr
- S-9: External Coating - Pipe Heating; Propane Heater; 2.4 MMBTU/hr (Exempt)
- S-10: External Coating – Abrasive Blasting; Atis, 188 tons/hr
- S-11: External Coating – Fusion Bonded Epoxy; Atis, 364 tons/yr
- S-12: External Coating – Polyethylene Wrapping, Extruded Adhesive; Atis, 587 tons/yr (Exempt)
- S-13: External Coating – Polyethylene Wrapping, Extruded Polyethylene; Atis, 7,256 tons/yr (Exempt)
- S-14: Internal Coating – Abrasive Blasting; Atis, 125 tons/yr
- S-15: Internal Coating – Coal Tar Application; Atis, 41 tons/yr
- S-16: Wipe Cleaning Operation – Maintenance Area; 300 gallon solvent tank
- S-17: Wipe Cleaning Operation – Maintenance Area; 300 gallon solvent tank

Abatement Device List

- A-1: Pulse Jet Baghouse – Abating S-1; 74,160 dscf/hr (Exempt)
- A-2: Pulse Jet Baghouse – Abating S-2; 56,500 dscf/hr
- A-3: Pulse Jet Baghouse – Abating S-3; 56,500 dscf/hr
- A-4: Cyclone Separator – Abating S-4; 74,160 dscf/hr (Exempt)
- A-5: Cyclone Separator – Abating S-5; 74,160 dscf/hr (Exempt)
- A-6: Cyclone Separator – Abating S-6; 74,160 dscf/hr (Exempt)
- A-7: Cyclone Separator – Abating S-7; 74,160 dscf/hr (Exempt)
- A-8: Pulse Jet Baghouse – Abating S-4; 74,160 dscf/hr (Exempt)
- A-9: Pulse Jet Baghouse – Abating S-5; 74,160 dscf/hr (Exempt)
- A-10: Pulse Jet Baghouse – Abating S-6; 74,160 dscf/hr (Exempt)
- A-11: Pulse Jet Baghouse – Abating S-7; 74,160 dscf/hr (Exempt)
- A-12: Cyclone Separator – Abating S-8; 56,500 dscf/hr
- A-13: Pulse Jet Baghouse – Abating S-8; 56,500 dscf/hr
- A-14: Cyclone Separator – Abating S-10; 529,720 dscf/hr
- A-15: Pulse Jet Baghouse – Abating S-10; 529,720 dscf/hr
- A-16: Cyclone Separator – Abating S-11; 932,280 dscf/hr
- A-17: Pulse Jet Baghouse – Abating S-11; 932,280 dscf/hr
- A-18: Cyclone Separator – Abating S-14; 317,820 dscf/hr
- A-19: Pulse Jet Baghouse – Abating S-14; 317,820 dscf/hr
- A-20: Activated Carbon Tower – Abating S-15; 381,360 dscf/hr

Table 1: Emissions Train

Source		1st Abatement Device		2nd Abatement Device		Emission Point	
(#)	Description	(#)	Description	(#)	Description	(#)	Flow (acfm)
S1	Tack Welding	A1	Baghouse		N/A	P1	1,236
S2	Pipe Inside Cleaning	A2	Baghouse		N/A	P2	942
S3	Pipe Inside Cleaning	A3	Baghouse		N/A	P3	942
S4	Submerged Arc Welding	A4	Cyclone	A8	Baghouse	P4	1,236
S5	Submerged Arc Welding	A5	Cyclone	A9	Baghouse	P5	1,236
S6	Submerged Arc Welding	A6	Cyclone	A10	Baghouse	P6	1,236
S7	Submerged Arc Welding	A7	Cyclone	A11	Baghouse	P7	1,236
S8	Pipe Inside Suction	A12	Cyclone	A13	Baghouse	P8	942
S9	Propane Heater		N/A		N/A	P9	1,090
S10	External Abrasive Blast	A14	Cyclone	A15	Baghouse	P10	8,829
S11	External Epoxy Coating	A16	Cyclone	A17	Baghouse	P11	15,538
S12	Polyethylene Wrapping		N/A		N/A		
S13	Polyethylene Wrapping		N/A		N/A		
S14	Internal Abrasive Blast	A18	Cyclone	A19	Baghouse	P12	5,297
S15	Internal Coal Tar Application	A20	Activated Carbon		N/A	P13	6,356
S16	Solvent Wipe Cleaning		N/A		N/A		
S17	Solvent Wipe Cleaning		N/A		N/A		

EXEMPT EQUIPMENT:

The following equipment included on the source list is exempt from District permitting as noted:

Welding Operations: S-1, S-4, S-5, S-6, S-7

Regulation 2-1-128.11: Exemption; brazing, soldering or welding equipment.

Propane Heater: S-9

Regulation 2-1-114.1.2: Exemption, Combustion Equipment; heaters less than 10 million BTU per hour rated heat input if fired exclusively with natural gas (including compressed natural gas), liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures), or any combination thereof.

External Coating - Polyethylene Wrapping: S-12, S-13

Regulation 2-1-119.2.2: Exemption, Surface Coating; coating operations using materials that contain less than 1% VOC (wt).

Abatement Devices for Exempt Sources: A-1, A-4, A-5, A-6, A-7, A-8, A-9, A-10, A-11

Regulation 2-1-113.2.4: Exemption; abatement devices used solely to abate equipment that does not require permitting.

EMISSIONS DISCUSSION:

Welding Operations: S-1, S-4, S-5, S-6, S-7

Although welding operations are exempt as discussed above, Regulation 2-1-316 requires a further evaluation for sources that emit toxic air contaminants (TAC). If TAC emissions from a source will exceed one or more of the compound specific trigger levels in Table 2-5-1 of Regulation 2, Rule 5 “New Source Review of Toxic Air Contaminants”, the applicant must either apply for a permit to operate; or demonstrate that the operation meets toxics best available control technology (TBACT) and will have an acceptable project risk.

EPA AP-42 Chapter 12.19 has established emission factors for hazardous air pollutants (HAPs) for various types of welding based on the type of electrode used in the process (Table 12.19-2). This will be the basis for determining whether welding emissions from the proposed facility will exceed TAC trigger levels.

USP will use two types of welding at the proposed facility: Gas Metal Arc Welding (GMAW) for Tack Welding (S-1) and Submerged Arc Welding (SAW) for the Final Welding Stands (S-4, S-5, S-6, S-7). According to AP-42, TAC emissions from SAW operations are negligible. Therefore, S-4, S-5, S-6, and S-7 are clearly exempt from permitting. USP has provided GMAW electrode usage data for in order to determine the applicability of permitting to S-1. The projected TAC emissions from S-1 are presented in Table 2.

Table 2: TAC Emissions from Gas Metal Arc Welding - E70S Electrode

TAC	Emission Factor (lb/lb electrode)	Annual Electrode Use (lb)	Potential Emissions (lb)	Baghouse A-1 Abatement Factor	Annual Emissions (lb)	BAAQMD Trigger Level (lb)
Chromium	1.00E-06	656,536	6.57E-01	98%	1.31E-02	N/A
Chromium (Hex)	ND	656,536		98%		1.30E-03
Cobalt	1.00E-06	656,536	6.57E-01	98%	1.31E-02	N/A
Manganese	3.18E-04	656,536	2.09E+02	98%	4.18E+00	7.70E+00
Nickel	1.00E-06	656,536	6.57E-01	98%	1.31E-02	7.30E-01
Lead	ND	656,536		98%		5.40E+00

Since emissions of Manganese and Nickel are below the respective Chronic Trigger Levels from Regulation 2, Rule 5, Table 2-5-1, permitting is not required for the Tack Welding Operation S-1.

Pipe Cleaning and Surface Preparation: S-2, S-3, S-8, S-10, S-14 – Particulate (PM10)

The Pipe Inside Cleaning Machines S-2 and S-3 use a rotation brush and exhauster to remove scale and other loose debris from the inside of the formed pipes prior to final submerged arc welding. The Pipe Inside Suction Machine S-8 again cleans the inside of the pipe after final welding to aid in the visual inspection of the pipe. S-10 and S-14 are Abrasive Blasting operations to prepare the pipe for external and internal coatings. These operations are all exhausted to various baghouses, each with an outlet grain-loading limit of 0.006 grains per dry standard cubic foot (gr/dscf). Therefore, PM10 emissions from each of these sources will be based on the potential emissions at the outlet of their respective control device. The maximum projected PM10 emissions from these operations is given in Table 3 below.

Table 3: Abated PM10 Emissions from Pipe Cleaning and Surface Preparation

Source	Outlet Grain Loading (gr/dscf)	Outlet Flow Rate (dscf/hr)	Hours of Operation (hrs/day)	Annual Operation (days/yr)	Total PM10 Emissions	
					(lb/hr)	(lb/yr)
S2	0.006	56,500	20	286	0.05	277.0
S3	0.006	56,500	20	286	0.05	277.0
S8	0.006	56,500	20	286	0.05	277.0
S10	0.006	529,720	20	286	0.45	2597.1
S14	0.006	317,820	20	286	0.27	1558.2

External Epoxy Coating: S-11

The External Epoxy Coating operation is a fusion-bonded process wherein the pipe is first heated, then sprayed with an electrically charged epoxy powder. As the powder settles onto the pipe it melts and fuses together, activating the epoxy hardener and forming a durable cross-linked polymer coating on the pipe. Emissions from this process are volatile organic compounds (VOC) driven off during the curing process and PM from powder overspray. The overspray powder is collected by the Cyclone A-16 for reuse. The Baghouse A-17 abates PM not captured by A-16. VOC from this operation is not controlled.

VOC: Based on an annual epoxy coating usage of 364 tons and an overall VOC of 1% by weight, the highest potential VOC emissions will be 3.64 tons/yr. Daily emissions are estimated to be 25.45 pounds, assuming 286 days per year of operation.

PM10: Overspray from S-11 is abated by the Baghouse A-17, which has a maximum exhaust rate of 15,538 scfm (932,280 dscf/hr) and an outlet grain-loading limit of 0.006 gr/dscf. Therefore, the highest potential PM10 emissions will be:

$$\begin{aligned} \text{PM10} &= (932,280 \text{ dscf/hr}) * (0.006 \text{ gr/dscf}) * (\text{lb}/7,000 \text{ gr}) * (20 \text{ hrs/day}) * (286 \text{ days/yr}) \\ &= 4,571 \text{ lb/yr} \\ &= 2.29 \text{ tons/yr} \end{aligned}$$

Internal Coal Tar Application: S-15

In some cases liquid coal tar may be applied to the inside of the pipe as a protective coating. This process will generate VOC emissions, which will be abated by the Activated Carbon Tower A-20. Emissions from S-15 are estimated as follows:

Coal Tar Usage: 41 tons/yr
VOC Content: 30% (by weight)
Abatement Efficiency: 95%

$$\begin{aligned} \text{VOC} &= (41 \text{ tons/yr}) * (2,000 \text{ lb/ton}) * (0.30) * (1 - 0.95) \\ &= 1,230 \text{ lb/yr} \\ &= 0.62 \text{ tons/yr} \end{aligned}$$

The coal tar coating to be used at S-15 contains Xylene, a toxic air contaminant. However, the estimated total VOC emissions from this source are well below the acute and chronic toxic trigger levels for Xylene.

Maintenance Area Wipe Cleaning: S-16, S-17

USP has stated that each of the Wipe Cleaning Operations S-16 and S-17 will use 500 gallons of degreasing solvent per year. The solvent has a maximum VOC content of 7.7% (by weight) and has a specific gravity of 1.029. Therefore, the potential VOC emissions from each of these sources will be as follows:

$$\begin{aligned} \text{VOC} &= (500 \text{ gal/yr}) * (8.34 \text{ lb/gal}) * (1.029) * (0.077) \\ &= 330 \text{ lb/yr} \\ &= 0.17 \text{ tons/yr} \end{aligned}$$

Increased Rail Transport

In addition to the sources listed above, the facility will also have emissions from increase rail transport bringing raw materials and finished product to and from the facility. As previously discussed, United Spiral Pipe, LLC (USP) and USS-POSCO Industries (UPI) will use the same ships and trains to transport cargo. The number of ships will not increase, but rail transport will have to increase to accommodate USP.

In accordance with BAAQMD Regulations 2-1-213 and 2-2-215, USP and UPI must be considered part of the same “Facility”, both because they are under common ownership or control and because they have related sources (e.g. rail and ship transport). Because of this, USP/UPI have proposed folding the increased rail emissions into the existing permit conditions for UPI (Condition #7216). Since the current UPI cargo carrier emissions are well below permitted levels, the additional rail emissions from USP can easily be included within the existing limits. Therefore, there is no increase of rail transport emissions associated with this application. Permit condition #7216 will be modified accordingly to combine the transport emissions from the two plants.

CUMULATIVE EMISSIONS INCREASE:

Table 4: Summary of Emissions from Permitted Sources

Source		Emissions Summary			
		VOC		PM10	
(#)	Description	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)
S2	Pipe Inside Cleaning	N/A	N/A	1.0	0.139
S3	Pipe Inside Cleaning	N/A	N/A	1.0	0.139
S8	Pipe Inside Suction	N/A	N/A	1.0	0.139
S10	External Abrasive Blast	N/A	N/A	9.0	1.299
S11	External Epoxy Coating	25.5	3.639	16.0	2.286
S14	Internal Abrasive Blast	N/A	N/A	5.4	0.779
S15	Internal Coal Tar Application	4.3	0.615	N/A	N/A
S16	Solvent Wipe Cleaning	1.2	0.165	N/A	N/A
S17	Solvent Wipe Cleaning	1.2	0.165	N/A	N/A
Total Permitted Emissions:		32.2	4.584	33.4	4.781

TOXIC RISK ASSESSMENT:

The composition of the steel to be used by USP includes five metals listed as toxic air contaminants by the District:

- Copper: 0.40 % by weight
- Manganese: 2.00 % by weight
- Nickel: 0.60 % by weight
- Phosphorus: 0.03 % by weight
- Vanadium: 0.10 % by weight

Assuming these metals are uniformly removed during pipe cleaning and abrasive surface preparation operations and that they are emitted from the baghouses of these operations as uniform fractions of the Total PM10 emissions given in Table 3 above, the highest potential hourly and annual emissions will be as follows:

Table 5: Toxic Air Pollutants from Steel PM Emissions - Highest Hourly

Pollutant	Emission Factor (lb/lb PM)	Acute Trigger (lb/hr)	Source Specific TAC Emissions				
			S2 (lb/hr)	S3 (lb/hr)	S8 (lb/hr)	S10 (lb/hr)	S14 (lb/hr)
Copper	0.004	2.20E-01	1.94E-04	1.94E-04	1.94E-04	1.82E-03	1.09E-03
Manganese	0.02	N/A	9.69E-04	9.69E-04	9.69E-04	9.08E-03	5.45E-03
Nickel	0.006	1.30E-02	2.91E-04	2.91E-04	2.91E-04	2.72E-03	1.63E-03
Phosphorus	0.0003	N/A	1.45E-05	1.45E-05	1.45E-05	1.36E-04	8.17E-05
Vanadium	0.001	6.60E-02	4.84E-05	4.84E-05	4.84E-05	4.54E-04	2.72E-04

Table 6: Toxic Air Pollutants from Steel PM Emissions - Annual Average

Pollutant	Emission Factor (lb/lb PM)	Chronic Trigger (lb/yr)	Source Specific TAC Emissions				
			S2 (lb/yr)	S3 (lb/yr)	S8 (lb/yr)	S10 (lb/yr)	S14 (lb/yr)
Copper	0.004	9.30E+01	1.11E+00	1.11E+00	1.11E+00	1.04E+01	6.23E+00
Manganese	0.02	7.70E+00	5.54E+00	5.54E+00	5.54E+00	5.19E+01	3.12E+01
Nickel	0.006	7.30E-01	1.66E+00	1.66E+00	1.66E+00	1.56E+01	9.35E+00
Phosphorus	0.0003	2.70E+00	8.31E-02	8.31E-02	8.31E-02	7.79E-01	4.67E-01
Vanadium	0.001	N/A	2.77E-01	2.77E-01	2.77E-01	2.60E+00	1.56E+00

Bolded emissions indicate that the pollutant trigger level was exceeded.

As illustrated above, there is the potential for Nickel and Manganese to exceed the chronic trigger levels given in Regulation 2, Rule 5, Table 2-5-1. Therefore, a health risk screening analysis (HRSA) is required.

An HRSA for this project was completed on June 25, 2007 (see memorandum from Ted Hull to Scott Lutz). Results from the analysis indicate that the maximum cancer risk is **0.2 in a million**, the chronic hazard index is **0.03**, and the acute hazard index is **0.09**. In accordance with Regulation 2-5-301 these are acceptable project risks.

BACT REVIEW:

Best Available Control Technology (BACT) review is triggered for any new source that results in an emission of a regulated air pollutant equal to or greater than 10 pounds per highest day. Based on the emissions presented in this application, BACT is triggered for POC and PM10 emissions from the External Epoxy Coating Operation S-11.

The District's BACT Guideline for Spray Coating Miscellaneous Metal Parts and Products (Document #161.5.1, 12/16/03), provides the following guidance for POC and PM10 emissions from coating operations that emit <50 lb/day (pollutant specific):

POC

BACT #1 (technologically feasible if cost effective): "Coating w/VOC content and transfer efficiency complying w/Reg. 8, Rule 19, and emissions controlled to overall capture/destruction efficiency $\geq 90\%$." Typical control technology: "Collection system vented to Carbon Adsorber or Afterburner".

BACT #2 (achieved in practice): "Complying w/Reg. 8, Rule 19". Typical control technology: "Low VOC Coatings".

Due to the high exhaust flow rate at this source (15,538 cfm), the resultant pollutant concentration is quite low, estimated to be about 33 ppm (expressed as methane). Therefore, while it may be technologically possible to concentrate and control the exhaust stream by $\geq 90\%$, it is assumed that this approach would not meet the cost effectiveness* criterion of \$17,500/ton for POC. Such a system would need to have an annualized operating cost of \$40,000 or less to be considered cost effective for the 2.29 tons/yr of POC expected from S-11.

Since BACT #1 cannot realistically be expected to be cost effective, BACT #2 will apply. S-11 must comply with Regulation 8, Rule 19. VOC emissions from the powder coating to be used at S-11 (1% by weight) are far below the equivalent limits for "Baked Coatings" in 8-19-302.1 (VOC limit = 275 g/l, est. 20-30% by wt.). Therefore, S-11 meets BACT #2 for POC emissions.

*Cost-effectiveness = (Annualized Cost of Abatement System (\$/yr)) / (Reduction in Annual Pollutant Emissions (ton/yr))

PM10

BACT #1: "Not determined"

BACT #2: "No standard". Typical control technology: "Dry Filters or Waterwash, properly maintained".

USP has proposed the use of a Cyclone Collector (A-16) followed by a Baghouse (A-17) with an outlet grain-loading limit of 0.006 gr/dscf. This will satisfy the PM10 BACT requirement for S-11.

TBACT REVIEW:

Toxics Best Available Control Technology (TBACT) review is not required for this application because each source subject to a HRSA has a cancer risk less than 1.0 in a million and a chronic hazard index less than 0.2.

OFFSET REVIEW:

As discussed above, United Spiral Pipe, LLC and USS-POSCO, Inc. are considered to be parts of the same "facility" in accordance with Regulation 2-2-215 because they are under common ownership or control and because they have related sources (e.g. rail and ship transport). Therefore, for the purpose of determining the applicability of emissions offsets for United Spiral Pipe, the existing emissions from USS-POSCO must be included. The District's Emissions Inventory currently lists the following emissions for USS-POSCO:

PM (Total):	18.1 tons/yr
POC:	22.2 tons/yr
NOx:	56.5 tons/yr
SO2:	0.3 tons/yr
CO:	19.3 tons/yr

NO_x

In accordance with Regulation 2-2-302, before the APCO may issue an authority to construct or a permit to operate for a new or modified source at a facility which emits 35 tons per year or more or will be permitted to emit 35 tons per year or more, on a pollutant specific basis, of precursor organic compounds or nitrogen oxides, federally enforceable emission offsets shall be provided, for the emission from the new or modified source and any pre-existing cumulative increase, minus any onsite contemporaneous emission reduction credits determined in accordance with Section 2-2-605, at a 1.15 to 1.0 ratio.

Since NO_x emissions are currently above 35 tons per year, any new emissions increase must be offset at a ratio of 1.15 to 1.0. The permit application submitted to BAAQMD states that the NO_x emissions from USS-POSCO rail operations will increase by 10 tons/yr as a result of the requirements of the spiral pipe facility. Therefore, 11.5 tons/yr of NO_x offsets would be required for this project. However, UPI and USP have decided to include the additional rail emissions for USP under the existing cargo emissions limits for UPI (Permit Condition #7216), which allow up to 100.333 tons/yr of NO_x. Since current UPI operations only account for about one third of the NO_x limit, the potential 10 tons of NO_x from USP easily fits within the existing baseline. By using this approach, there is no increase of NO_x emissions from USP and no offsets required.

POC

Before the APCO may issue an authority to construct or a permit to operate for a new or modified source at a facility which emits or will be permitted to emit more than 10 tons per year but less than 35 tons per year, on a pollutant specific basis, of precursor organic compounds or nitrogen oxides, emission offsets shall be provided, by the District (or by the applicant, if the Small Facility Banking account has been exhausted) at a 1.0 to 1.0 ratio for the emission from the new or modified source.

Since POC emissions from UPI are currently 22.2 tons/yr and USP will add an additional 4.6 tons/yr (for a total of 26.8 tons/yr), POC offsets for the new emissions from USP will be provided by the District's Small Facility Banking Account.

PM₁₀, SO₂

Offsets are not required for PM₁₀ or SO₂ because the UPI/USP is not a major facility for these pollutants.

Table 7: Summary of Offset Requirements

Pollutant	UPI Existing (tons/yr)	USP Application (tons/yr)	"Facility" Total (tons/yr)	Offsets Required? (yes/no)	Offset Ratio	Offsets Required (tons/yr)
PM (Total)	18.1	4.781	22.9	no	N/A	0.0
POC	22.2	4.584	26.8	yes	1.0-1.0	4.584*
NO _x *	56.5	0.000	56.5	no	N/A	0.0
SO ₂	0.3	0.000	0.3	no	N/A	0.0
CO	19.3	0.000	19.3	no	N/A	0.0

* Small Facility Banking Account

PSD REVIEW

In accordance with Regulation 2-2-304, a PSD review is required for a new major facility, which will emit 100 tons per year or more of a regulated air pollutant, if it is one of the 28 PSD source categories listed in Section 169(1) of the federal Clean Air Act, or 250 tons per year or more for an unlisted category. PSD review is also required for a major modification of a major facility if the cumulative increase, from the PSD Baseline Date, minus the contemporaneous emission reduction credits at the facility are in excess of 40 tons per year of sulfur dioxide or nitrogen oxides, or 15 tons per year of PM10. Similarly, Regulation 2-2-305 requires a PSD review for a major modification of a major facility with an increase of 100 tons per year or more of carbon monoxide.

“Secondary Metal Production Plants”, which may include the UPI/USP facility, is one of the 28 listed categories that are subject to the lower PSD Major Facility threshold of 100 tons/year. However, in accordance with Regulation 2-2-215.2, the emissions related to cargo carriers shall not be included when determining applicability of the requirements of PSD. Since cargo carrier emissions make up the majority of emissions, UPI/USP is not a major facility and PSD review is not triggered.

STATEMENT OF COMPLIANCE:

Public Notification Requirements (Regulation 2, Rule 1):

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

CEQA Requirements (Regulation 2, Rule 1):

The City of Pittsburg, acting as the lead agency for CEQA review of the proposed spiral pipe manufacturing plant, filed a notice of intent to adopt a mitigated negative declaration for the project on September 10, 2007; a public hearing was held on October 9, 2007; and final approval was granted on November 19, 2007. Therefore, this project has met the requirements of CEQA and is eligible for permitting by the BAAQMD.

Maximum Achievable Control Technology (MACT) Requirement (Regulation 2-2-317):

Total HAP emissions from this UPI/USP facility have been determined to be less than 25 tons/year of all HAPs combined and less than 10 tons/year of any single HAP. Therefore, Regulation 2-2-317 does not apply.

Major Facility Review (Regulation 2, Rule 6):

USS-POSCO, Site #A2371 was initially issued an MFR Permit on December 1, 2003, with an expiration date of November 30, 2008. The title V permit will be revised in accordance with Regulations 2-6-406 and 2-6-414 to add United Spiral Pipe, Site #B8478 as a “Minor Permit Revision”. In accordance with Regulation 2-6-215, the addition of USP to the UPI MFR Permit is a “Minor Revision”, because it is neither a “Significant Revision” as defined by Regulation 2-6-226 nor an “Administrative Permit Amendment” as defined by Regulation 2-6-201.

Particulate Matter and Visible Emissions (Regulation 6):

UPS is expected to comply with the Ringelmann 1 limit of Regulation 6-301, with little or no visible emissions due to high levels of particulate control throughout the plant. Compliance with Regulation 6-311 (PM emissions per process rate) is also assumed because of the use of high efficiency PM control throughout.

Organic Compounds, General Provisions (Regulation 8, Rule 1)

Regulation 8, Rule 1 requires the use of closed containers for the storage of organic cleaning solvents and solvent impregnated materials (such as cloths used for wipe cleaning). The Solvent Wipe Cleaning Operations S-16 and S-17 are subject to this rule and will include a requirement for closed containers in the conditions of their permits to operate.

General Solvent and Surface Coating Operations (Regulation 8, Rule 4)

The Solvent Wipe Cleaning Operations S-16 and S-17 are subject to either 1) Regulation 8-4-302.1 (< 5 TPY/source) or 2) Regulation 8-4-302.2 (85% overall control) and 3) the evaporative loss minimization

Permit Evaluation and Statement of Basis: Site #B8478, United Spiral Pipe, LLC,
900 E. 3rd Street, Pittsburg, CA 94565

requirements of Regulation 8-4-312. Based on the solvent usage data provided for S-16 and S-17, VOC emissions will be well below 5 tons/yr. Evaporative loss minimization is the same as that required by Regulation 8, Rule 1.

Solvent Cleaning Operations (Regulation 8, Rule 16):

The Wipe Cleaning Operations S-16 and S-17 are exempt from the control requirements and VOC limitations of Regulation 8, Rule 16, but are subject to monthly recordkeeping requirements under Section 8-16-501.3 of the rule. Monthly recordkeeping will be included in the permit conditions for S-16 and S-17.

Surface Preparation and Coating of Miscellaneous Metal Parts and Products (Regulation 8, Rule 19):

The External Epoxy Coating (S-11) and Internal Coal Tar Application (S-15) operations are subject to the requirements of Regulation 8, Rule 19.

S-11: Powder coatings are exempt from the VOC limits of this rule per Section 8-19-120 provided that the emission of VOC to the atmosphere does not exceed that which is equivalent to the use of coatings that comply with those limits. The epoxy powder coating to be used at S-11 has a VOC of 1% by weight. In comparison, the limit for "Baked Coatings" in 8-19-302.1 is 275 g/l, approximately equivalent to 20-30% by weight. Therefore, S-11 is in compliance with this rule.

S-15: The coal tar coating to be used at S-15 has a VOC of approximately 30% by weight (4.0 lb/gal). This is above the 8-19-302.2 "Air-Dried" coating limit of 340 g/l (2.8 lb/gal). However, this is allowed if the emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an abatement device efficiency of at least 85 percent. USP has proposed the use of an Activated Carbon System (A-20) to abate VOC emissions from S-15. A-20 will have a control efficiency of at least 95% and equivalent VOC emissions to the atmosphere are estimated to be 0.2 lb/gal, well below the "Air-Dried" limit. Therefore, S-15 will comply with the rule.

Federal Source Category Specific Requirements:

The proposed spiral pipe manufacturing operation is not subject to 40 CFR 60 New Source Performance Standards (NSPS) or 40 CFR 63 National Emission Standards for Hazardous Air Pollutants (NESHAPs).

MONITORING ANALYSIS:

In order to demonstrate ongoing compliance with applicable requirements, this facility will be subject to periodic monitoring as follows:

PM Sources Abated by Baghouses: S-2, S-3, S-8, S-10, S-11, S-14

Each of the baghouses will have a permitted outlet PM grain loading limit of 0.006 gr/dscf. Compliance with this limit will be demonstrated by an initial source test, followed by monthly pressure drop and visible emissions monitoring to assure proper baghouse function.

Internal Coal Tar Application: S-15

The Activated Carbon System A-20 abating S-15 is required to have a VOC removal efficiency of 95% by weight. The suggested permit conditions for S-15 allow a VOC emission up to 10 ppm by volume (ppmv), expressed as C1 at the outlet of the final carbon vessel for the purpose of monitoring carbon breakthrough. Given the following:

Abated (95% by wt.) VOC Emission Rate:	4.3 lb/day
Exhaust Flow Rate:	6,365 dscfm
Molecular Weight of Methane (C1):	16 lb/lb-mole
Volume of Gas at 70°F:	386 scf/lb-mole

$$\begin{aligned} \text{ppmv as C1} &= (4.3 \text{ lb VOC/day}) * (\text{day}/20\text{hr}) * (\text{hr}/60 \text{ min}) * (\text{min}/6,365 \text{ dscf}) * (\text{lb-mole C1}/16 \text{ lb VOC}) / (386 \text{ dscf gas/lb-mole gas}) \\ &= 1.36 \times 10^{-5} \text{ lb-mole C1/lb-mole gas} \\ &= 13.6 \text{ ppmv (measured as C1)} \end{aligned}$$

Since the VOC emission rate from S-15 with 95% control is equivalent to an outlet concentration of 13.6 ppmv expressed as C1, the 95%+ control requirement will be maintained if the carbon is replaced no later than when the outlet concentration reaches 10 ppmv (as C1).

All Other Sources of VOC

Compliance with the applicable Regulation 8 requirements for all other coating operations and organic solvent use will be demonstrated through recordkeeping.

PERMIT CONDITIONS:

Facility-Wide Operating Conditions: United Spiral Pipe, LLC

1. United Spiral Pipe LLC (USP) is permitted to operate 20 hours per day, 286 days per year (5,720 hrs/yr), with a spiral pipe production capacity of 300,000 tons. Any increase of hourly operation or any increase of production capacity will be considered a modification of each affected source and will subject the permit holder to all applicable requirements of BAAQMD Regulation 2 "Permits". (basis: Regulation 2-1-234)
2. By definition, United Spiral Pipe (Plant# 18478) and USS-POSCO Industries (UPI) (Plant# 2371) are considered to be the same "facility" for the purpose of determining the applicability and implementation of federally enforceable requirements such as Offsets, Prevention of Significant Deterioration (PSD), and Major Facility Review (Title V). (basis: Regulations 2-1-213, 2-2-215, and 2-6-206)
3. All shared cargo carrier emissions from the combined USP/UPI facility shall be assigned to UPI, P#2371 and subject to Permit Condition #7216. (basis: Regulation 2-1-403)

General Conditions for PM Sources Abated by Baghouses: S-2, S-3, S-8, S-10, S-11, S-14

1. Baghouses shall be properly maintained and properly operated at all times that its associated PM emissions source(s) is/are in operation. (basis: Regulation 2-1-403)
2. Outlet grain loading at each baghouse shall not exceed 0.006 grains per dry standard cubic foot (gr/dscf). (basis: BACT, Cumulative Increase)
3. Each baghouse shall be equipped with a magnahelic gauge or other approved device to measure the pressure drop across the filter bags. The pressure drop across the baghouse shall be maintained within the range recommended by the manufacturer or normal operating range established by the facility. The established pressure drop range for each baghouse shall be recorded and kept on file. (basis: Regulation 2-1-403)
4. In order to ensure the proper operation of each affected baghouse, the following items shall be inspected on at least a monthly basis. (basis: Regulation 2-1-403)
 - a. the measured pressure drop across the baghouse is within the established pressure drop range
 - b. evidence of visible particulate emissions from the exhaust of the baghouse
5. If a baghouse is found to be operating outside of the established pressure drop range or if there is evidence of visible particulate emissions from the exhaust of the baghouse, a visual inspection of the filter bags shall be conducted. Filter bags exhibiting holes, tearing, or significant wear shall be replaced. After any corrective action has been taken, the baghouse shall be re-inspected in accordance with part 3. (basis: Regulation 2-1-403)

6. In order to demonstrate compliance with parts 4 and 5, the permit holder shall keep monthly inspection records for each affected baghouse in a District approved log. These records shall include the following information for each baghouse:
 - a. the time and date of each inspection
 - b. the name of the person conducting the inspection
 - c. the measured pressure drop versus the established pressure drop range
 - d. the results of each visible particulate emissions check
 - e. the observed condition of the filter bags when a visual inspection is performed
 - f. any corrective action taken as a result of the inspection

All records shall be kept on-site and made available for District inspection for a period of five years from the date on which a record is made. (basis: Regulation 2-6-501)

7. Initial source test requirement: In order to demonstrate initial compliance with part 2, the Permit Holder shall conduct a District approved source test of each affected baghouse within 60 days of startup. All testing shall be performed in accordance with Volume V of the District's Manual of Procedures and shall be approved in advance by the District's Source Test Section. Source test results shall be provided to the District within 60 days of the test date. (basis: BACT, Cumulative Increase)

External Epoxy Coating: S-11

1. The total amount of epoxy coating applied at S-11 shall not exceed 364 tons during any consecutive 12-month period. (basis: Cumulative Increase)
2. The total amount of volatile organic compounds (VOC) present in the epoxy powder coating shall not exceed 1% by weight. (basis: Cumulative Increase)
3. Powder overspray from this source shall be collected/abated by the Cyclone A-16 and Baghouse A-17 (arranged in series) at all times when powder coating is being applied. (basis: Cumulative Increase, Regulations 6-301 and 6-311)
4. In order to demonstrate compliance with parts 1 and 2, the permit holder shall maintain the following records:
 - a. the total amount of powder coating used, summarized on a monthly basis
 - b. a product data sheet for each coating applied, demonstrating that the VOC is equal to or less than 1% by weight

Records shall be kept on site for at least 5 years from the date of entry and shall be made available for inspection by District personnel upon request. (basis: Cumulative Increase)

Internal Coal Tar Application: S-15

1. The total amount of internal pipe coating applied at S-15 shall not exceed 41 tons during any consecutive 12-month period. (basis: Cumulative Increase)
2. The total amount of volatile organic compounds (VOC) present in the coating shall not exceed 30% by weight. (basis: Cumulative Increase)
3. VOC emissions from S-15 shall be vented under negative pressure to the Activated Carbon Tower A-20, consisting of at least two appropriately sized activated carbon vessels arranged in series, at all times that internal pipe coating is being performed. A-20 shall maintain a VOC

removal efficiency of at least 95% by weight. (basis: Cumulative Increase, Regulation 8-19-302)

4. In order to anticipate VOC breakthrough at A-20, the permit holder shall monitor with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the Air Pollution Control Officer at the following locations:
 - a. At the inlet to the second to last carbon vessel in series.
 - b. At the inlet to the last carbon vessel in series.
 - c. At the outlet of the carbon vessel that is last in series prior to venting to the atmosphere

Monitoring shall be performed each day that S-15 is operated, while coating is being applied. Daily monitoring results shall be recorded in a monitoring log and shall be used to estimate the frequency of carbon change-out necessary to maintain compliance with parts 5 and 6 below. (basis: Regulation 8-19-503.1)

5. The second to last carbon vessel in series shall be changed out with unspent carbon upon breakthrough, defined as the detection at its outlet of the higher of the following:
 - a. 10 % of the inlet stream concentration to the Carbon vessel.
 - b. 10 ppmv or greater (measured as C1).(basis: Cumulative Increase, Regulation 8-19-302)
6. The last carbon vessel shall be changed out with unspent carbon upon detection at its outlet of a concentration of 10 ppmv or more (measured as C1). (basis: Cumulative Increase, Regulation 8-19-302)
7. In order to demonstrate compliance with the above requirements, the permit holder shall maintain the following records:
 - a. the type and total amount of each internal pipe coating used, recorded at least weekly and summarized on a monthly basis
 - b. a product data sheet for each coating applied, demonstrating that the VOC of the coating as applied is equal to or less than 30% by weight
 - c. daily operational record for S-15/A-20
 - d. daily carbon vessel monitoring results as required by part 4
 - e. monitor type, serial number, and calibration records
 - f. dates when carbon vessels were removed and/or replaced by fresh carbon

Records shall be kept on site for at least 5 years from the date of entry and shall be made available for inspection by District personnel upon request. (basis: Cumulative Increase)

8. The permit holder shall report any non-compliance with parts 5 and/or 6 to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence. (basis: Cumulative Increase, Regulation 8-19-302)
9. Initial source test requirement: In order to demonstrate initial compliance with the VOC removal efficiency required by part 3, the Permit Holder shall conduct a District approved source test of the Activated Carbon Tower A-20 within 60 days of startup. All testing shall be performed in accordance with Volume V of the District's Manual of Procedures and shall be approved in advance by the District's Source Test Section. Source test results shall be provided to the District within 60 days of the test date. (basis: BACT, Cumulative Increase)

Maintenance Area Wipe Cleaning: S-16, S-17

Permit Evaluation and Statement of Basis: Site #B8478, United Spiral Pipe, LLC,
900 E. 3rd Street, Pittsburg, CA 94565

1. The total amount of organic solvents used at each of the Wipe Cleaning Operations S-16 and S-17 shall not exceed 500 gallons during any consecutive 12-month period. (basis: Cumulative Increase)
2. In order to minimize solvent losses all organic cleaning solvents and all solvent impregnated cloths or papers not in active use shall be kept in closed containers. (basis: Regulation 8-4-312)
3. To demonstrate compliance with Condition Number 1, the permit holder shall maintain the following records in a District approved log:
 - a. A list of types and/or product names of all materials used for wipe cleaning. For each material, record the VOC content in pounds of VOC per gallon of product.
 - b. Keep monthly records of the type and amount (in gallons) of each material used at S-16 and S-17.

Records shall be kept on site for at least 5 years from the date of entry and shall be made available for inspection by District personnel upon request. (basis: Cumulative Increase)

RECOMMENDATIONS:

It is recommended that an Authority to Construct be issued to United Spiral Pipe for the sources and abatement devices listed on page 1 of this evaluation.

By: _____
Ted Hull
Senior Air Quality Engineer