David Muir
Stellite Coatings
1201 Eisenhower Drive North
Goshen, Indiana 46526

Re: Registered Operation Status,
039-14366-00078

Dear Mr. Muir:

The application from Stellite Coatings, received on May 8, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following metal powder manufacturing operation located at 1201 Eisenhower Drive North, Goshen, Indiana, is classified as registered:

(a) One (1) air melt atomization tower with an operating capacity of 800 lb/hr equipped with a product cyclone that is considered integral to the process venting to Baghouse DC1. (The baghouse is not considered integral to the process.)

(b) One (1) fume hood venting to Baghouse DC2.

(c) One (1) vacuum melt atomization tower with an operating capacity of 175 lbs/hr equipped with a product cyclone that is considered integral to the process venting to Baghouse DC3. (The baghouse is not considered integral to the process.)

(d) One (1) Cobalt classifying operation venting to Baghouse DC4.

(e) One (1) Iron/Nickel classifying operation venting to Baghouse DC5.

(f) One (1) castable rework operation venting to Baghouse DC6.

(g) One (1) welding application and testing venting to Baghouse DC7.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

   (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

2. Pursuant to 326 IAC 6-3-2 (Process Operations) the particulate matter (PM) from the air melt atomization tower shall be limited to 2.22 lbs PM/hr by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

3. Pursuant to 326 IAC 6-3-2 (Process Operations) the particulate matter (PM) from the vaccum melt atomization tower shall be limited to 0.80 lbs PM/hr by the following:

   The PM form the vacuum melt atomization tower shall be limited by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

4. Pursuant to 326 IAC 6-3-2 (Process Operations) the particulate matter (PM) from the cobalt classifying operation shall be limited to 2.53 lbs PM/hr by the following:

   The PM from the cobalt classifying operation shall be limited by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

   $E = 4.10 \times (0.4875)^{0.67} = 4.10 \times (0.618) = 2.53$ lbs PM/hr

   The cobalt classifying operation has a maximum potential to emit 0.02 lbs PM/hr, therefore this unit complies with 326 IAC 6-3-2.

5. Pursuant to 326 IAC 6-3-2 (Process Operations) the particulate matter (PM) from the iron/nickel classifying operation shall be limited to 2.53 lbs PM/hr by the following:

   The PM from the iron/nickel classifying operation shall be limited by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

   $E = 4.10 \times (0.4875)^{0.67} = 4.10 \times (0.618) = 2.53$ lbs PM/hr

   The iron/nickel classifying operations has a maximum potential to emit 0.5 lbs PM/hr, therefore this unit complies with 326 IAC 6-3-2.

Note, the fumehood, the castable rework, and the weld application and testing operations have intermittent operations that handle less than 100 lbs of material per hour and therefore, are not evaluated relative to 326 IAC 6-3-2.

6. Pursuant to 326 IAC 2-1 (Registrations), the product cyclone associated with both atomization towers must be in operation when the towers are in operation, as they are considered integral part of the process.

In order to demonstrate maintenance of registration status, monthly records should be kept of the amount of PM material collected at each of the baghouses. Note, the amount of material collected should not exceed 25 tons per year.

This registration is registration renewal issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

ERG/RB

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Greg Wingstrom
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	**Stellite Coatings**
Address:	**1201 Eisenhower Drive North**
City:	**Goshen, Indiana 46526**
Authorized individual:	**David Muir**
Phone #:	**(219) 534-8818**
Registration #:	**039-14366-00078**

I hereby certify that Stellite Coatings is still in operation and is in compliance with the requirements of Registration 039-14366-00078.

Name (typed):	
Title:	
Signature:	
Date:	

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration Renewal

Source Background and Description

Source Name:	Stellite Coatings
Source Location:	1201 Eisenhower Drive North, Goshen, Indiana 46526
County:	Elkhart
SIC Code:	3370
Operation Permit No.:	039-14366-00078
Permit Reviewer:	ERG/RB

The Office of Air Quality (OAQ) has reviewed an application from Stellite Coatings relating to the operation of metal powder manufacturing facility.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) air melt atomization tower with an operating capacity of 800 lb/hr equipped with a product cyclone that is considered integral to the process venting to Baghouse DC1. Note, the baghouse is not considered integral to the process.

(b) One (1) fume hood venting to Baghouse DC2. *

(c) One (1) vacuum melt atomization tower with an operating capacity of 175 lbs/hr equipped with a product cyclone that is considered integral to the process venting to Baghouse DC3. Note, the baghouse is not considered integral to the process.

(d) One (1) Cobalt classifying operation venting to Baghouse DC4.

(e) One (1) Iron/Nickel classifying operation venting to Baghouse DC5.

(f) One (1) castable rework operation venting to Baghouse DC6.

(g) One (1) welding application and testing venting to Baghouse DC7.

* Not included in previous permits, but emissions are at exemption levels.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new construction activities included in this permit.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Registration 20-06-90-0652 issued June 1, 1990.

(b) Registration 20-06-90-0653 issued June 1, 1990.

(c) Registration 20-06-90-0654 issued June 1, 1990.

(d) Registration 20-06-90-0656 issued June 1, 1990.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the product cyclones associated with the air melt atomization tower (DC-1) and the vacuum melt atomization tower (DC-3) be considered as an integral part of the metal powder production:

(a) The powder collected from the cyclones represents 100% of the primary products that Stellite sells.

IDEM, OAQ has evaluated the justifications and agreed that the cyclones will be considered as an integral part of the metal powder production. Therefore, the permitting level will be determined using the potential to emit after the cyclones. Operating conditions in the proposed permit will specify that these cyclones shall operate at all times when the metal powder atomization towers are in operation.

Note, none of the baghouses associated with stacks DC-1 through DC-7 are considered integral to the process.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (inches)	Flow Rate (acfm)	Temperature (^{0}F)
DC1	Air Melt Atomization Tower	42	12	1970	200
DC2	Fume Hood	42	12	2500	200
DC3	Vacuum Melt Atomization Tower	42	14	1970	200
DC4	Cobalt Classifying Operation	46	12	4860	ambient
DC5	Iron/Nickel Classifying Operation	30	12	3720	ambient
DC6	Castable Rework Operation	26	18	10,000	ambient
DC7	Weld Application and Testing	15	10	1750	ambient

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on May 8, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (2 pages).

Potential To Emit Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	6.1
PM-10	0.6
SO_2	--
VOC	--
CO	--
NO_x	--
Single HAP (Nickel)	3.2
Total HAP	9.4

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are greater than levels listed in 326 IAC 2-1.1-3(d)(1), therefore the source is subject to the provisions of 326 IAC 2-5.5.1.

(d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment

SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	6.1
PM10	0.6
SO_2	--
VOC	--
CO	--
NO_x	--

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions were based on data provided in the permit application.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit PM is less than ten (10) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of metal powder production facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Process Operations)

(a) The particulate matter (PM) from the air melt atomization tower shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10 \times (0.4)^{0.67} = 4.10 \times 0.541 = 2.22$ lbs PM/hr

The air melt atomization tower has a potential to emit 0.25 lbs/hr therefore this unit complies with 326 IAC 6-3-2.

(b) The PM from the vacuum melt atomization tower shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10 \times (0.0875)^{0.67} = 4.10 \times 0.195 = 0.80$ lbs PM/hr

The vacuum melt atomization tower has a potential to emit 0.25 pound per PM per hour,

therefore this unit complies with 326 IAC 6-3-2.

(c) The PM from the cobalt classifying operation shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$E = 4.10 \times (0.4875)^{0.67} = 4.10 \times (0.618) = 2.53$ lbs PM/hr

The cobalt classifying operation has a maximum potential to emit 0.02 lbs PM/hr, therefore this unit complies with 326 IAC 6-3-2.

(d) The PM from the iron/nickel classifying operation shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$E = 4.10 \times (0.4875)^{0.67} = 4.10 \times (0.618) = 2.53$ lbs PM/hr

The iron/nickel classifying operation has a maximum potential to emit 0.5 lbs PM/hr, therefore this unit complies with 326 IAC 6-3-2.

Note, the fumehood, the castable rework, and the weld application and testing operations have intermittent operations that handle less than 100 lbs of material per hour and therefore, are not evaluated relative to 326 IAC 6-3-2.

Conclusion

The operation of this metal powder production facility shall be subject to the conditions of the attached proposed Registration Renewal 039-14366-00078.

Appendix A: Emissions Calculations
Metal Powder Production
Company Name: Stellite Coatings
Address City IN Zip: 1201 Eisenhower Drive North, Goshen, Indiana 46526
MSOP: 039-14366
Plt ID: 039-00078
Reviewer: ERG/RB
Date: 05/14/2001

Note, the baghouses are not considered integral to the process; therefore, the calculations for the potential to emit are prior to control.

Baghouse DC-01	lbs/hr	tons/yr
PM Collected	0.247	1.08
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00025	0.001
Controlled PM10 Emissions	0.000025	0.0001
Total PM Potential to Emit	0.2	1.1
Total PM-10 Potential to Emit	0.025	0.11
Baghouse DC-02		
PM Collected	0.073	0.32
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00007	0.000
Controlled PM10 Emissions	0.000007	0.0000
Total PM Potential to Emit	0.1	0.3
Total PM-10 Potential to Emit	0.007	0.03
Baghouse DC-03		
PM Collected	0.247	1.08
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00025	0.001
Controlled PM10 Emissions	0.000025	0.0001
Total PM Potential to Emit	0.2	1.1
Total PM-10 Potential to Emit	0.025	0.11
Baghouse DC-04		
PM Collected	0.024	0.11
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00002	0.000
Controlled PM10 Emissions	0.000002	0.0000
Total PM Potential to Emit	0.0	0.1
Total PM-10 Potential to Emit	0.002	0.01

Appendix A: Emissions Calculations
Metal Powder Production

Company Name: Stellite Coatings
Address City IN Zip: 1201 Eisenhower Drive North, Goshen, Indiana 46526
MSOP: 039-14366
Plt ID: 039-00078
Reviewer: ERG/RB
Date: 05/14/2001

Baghouse DC-05		
PM Collected	0.549	2.40
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00055	0.002
Controlled PM10 Emissions	0.000055	0.0002
Total PM Potential to Emit	0.5	2.4
Total PM-10 Potential to Emit	0.055	0.24
Collected PM=	0.000 tons/yr	
Baghouse DC-06		
PM Collected	0.123	0.54
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00012	0.001
Controlled PM10 Emissions	0.000012	0.0001
Total PM Potential to Emit	0.1	0.5
Total PM-10 Potential to Emit	0.012	0.05
Baghouse DC-07		
PM Collected	0.123	0.54
Estimated Control Efficiency	99.9%	
Controlled PM emissions	0.00012	0.001
Controlled PM10 Emissions	0.000012	0.0001
Total PM Potential to Emit	0.1	0.5
Total PM-10 Potential to Emit	0.012	0.05

Total PM PTE = Sum of Individual baghouse PTEs
Total PM PTE = 6.1 tons/yr
Total PM-10 PTE = 0.6 tons/yr