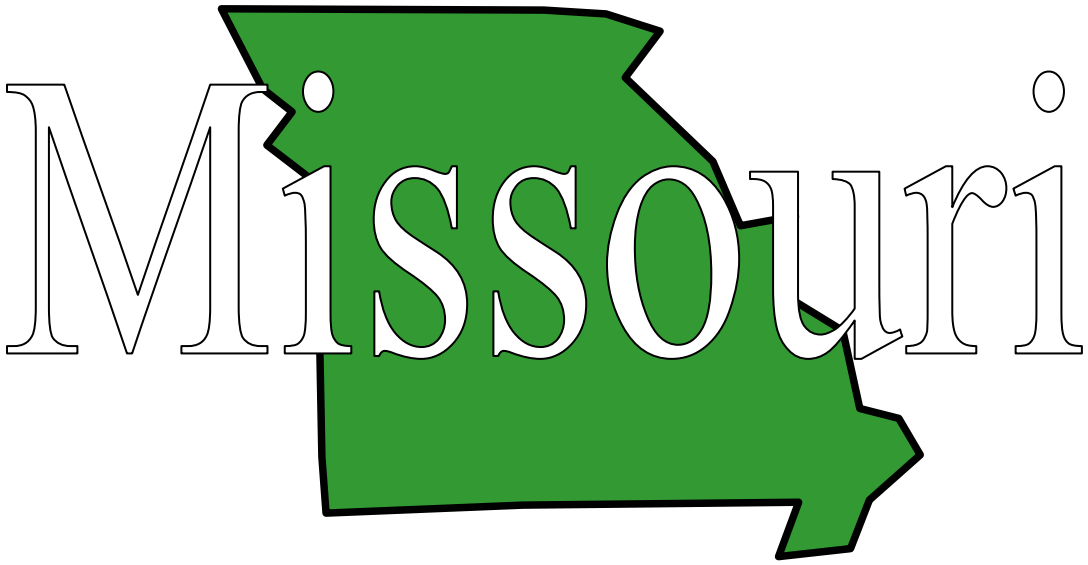

Supplement to the 2007 Missouri State Implementation Plan for the Herculaneum Lead Nonattainment Area

Missouri Air Conservation Commission
Adopted: July 29, 2009

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ABBREVIATIONS

acfm	Actual Cubic Feet Per Minute
APCP	Air Pollution Control Program
CJ	Consent Judgment (for the 2007 Submittal)
DRH	Doe Run Herculaneum
EPA	Environmental Protection Agency
MDNR	Missouri Department of Natural Resources
NAAQS	National Ambient Air Quality Standards
SIP	State Implementation Plan
$\mu g/m^3$	micrograms per cubic meter (concentration measure units)

1.0 Introduction

This plan revision is primarily designed to supplement the 2007 Missouri State Implementation Plan for the Herculaneum area and finalize the last outstanding requirement from the 2007 Consent Judgment (CJ). The CJ provided for implementation of the emission controls and other requirements designed to bring the city of Herculaneum lead nonattainment area into compliance with the National Ambient Air Quality Standard (NAAQS). Compliance with the NAAQS under this plan is based on ambient monitoring data with concentrations less than a quarterly average of 1.5 micrograms per cubic meter ($\mu g/m^3$).

In paragraph 2.A.20. of the 2007 Consent Judgment, the department and Doe Run agreed the company would conduct a building ventilation study for the purposes of establishing enforceable limits used to ensure that particles emitted within the Sinter Plant, Blast Furnace and Refinery Buildings are appropriately captured, contained or controlled by these buildings and their associated industrial process and hygiene ventilation systems. The limits proposed by Doe Run are in the form of actual cubic feet per minute for several baghouse fans with continuous flow metering and amperage limits on fans with no flow metering.

The establishment of these enforceable limits is required by the SIP Revision adopted by the Missouri Air Conservation Commission at its April 2007 meeting and submitted to the U.S. Environmental Protection Agency (EPA) in May 2007. The SIP Revision submittal was deemed to be complete by operation of law on December 19, 2007. The EPA proposed conditional approval of this SIP revision on October 8, 2008. For the SIP revision to gain final approval by EPA (and not conditional approval), the results of this approved study must be submitted as part of the SIP to ensure enforceable building ventilation system limits. The ultimate goal for this study is to establish conditions that provide 200 feet per minute inflows at all openings (e.g. doors) to the outside atmosphere from each building.

To summarize, the following ventilation sources (or groups of sources) have been included by Doe Run as part of the overall ventilation study:

SINTER BUILDING
#3 baghouse (sinter machine and acid plant)
Sinter machine wheel tunnel
Sinter plant combination trail (mix drum baghouse, crusher baghouse, cooler baghouse, cage paktor, 76" smooth rolls, CV 22 baghouse, and #6 baghouse*)

BLAST FURNACE BUILDING
#5 baghouse (furnaces and CV10 Grizzly fan, CV10/CV11/CV12 fan, CV13/CV14 fan, scale belt fan, crow's nest fan, "D" Kettle flux fan, and furnace front end)
#7 baghouse
CV10 Leg to #8 baghouse (measured by #8 baghouse in refinery)
Furnace Feed Floor to #6 baghouse*

REFINERY BUILDING
#8 baghouse (Kettles #1, 2, 3, 9, 10, and 11)
#9 baghouse

*Two separate requirements for #6 baghouse – (1) component of the sinter plant combination trail and (2) requirement for ventilation of the blast furnace building

In addition to the completion of requirements under 2.A.20 of the CJ, there are two other components to this plan revision. The first is the inclusion of winter construction practices in the company's work practice manual. This revision was necessary as part of the continual improvement process and NAAQS compliance assurance detailed under paragraphs 2.B.10, Continuous Monitoring and Ongoing Evaluations, and 2.B.12, Environmental Management System of the CJ. During the first quarter of 2008, Doe Run monitored a violation of the NAAQS. Based on the data analysis and review, it was discovered that the monitored values were primarily influenced by in-plant road dust due to construction equipment activities during periods of time when the watering system for the plant was not operating. The lack of operation was due to freezing temperatures that preclude the use of water for safety reasons. The work practices manual revision includes language that prohibits construction activities during this type of situation in the future.

The other component addresses the alternative measurement of appropriate fan amperage for the Sinter Machine Wheel Tunnel Ventilation, as addressed under paragraph 2.A.4 of the CJ. The relationship between flowrate and fan amperage was calculated as part of the building ventilation study. As part of the provision, Doe Run utilized existing fan amperage and flowrate data to determine minimum amperage that would allow the flowrate limitations under 2.A.4 to be met (15,000 acfm). Further, the approval of the amperage approach does not significantly impact the overall inflow into the sinter plant building (per 2.A.20) due to the limited volume of air being drawn from the wheel tunnel when compared to the other ventilation sources in the sinter building.

With the submittal of all the ventilation study components and findings along with the department's approval, the state of Missouri has addressed all the requirements from the 2007 Consent Judgment and believes the Herculaneum lead SIP is complete and approvable by EPA. Further, based on the last four quarters of ambient monitoring data, the Herculaneum area has been attaining the lead NAAQS of 1.5 $\mu g/m^3$. This fact lends additional weight to the conclusions drawn from the ventilation study and that the capture of lead-bearing particles is on-going and effective.

2.0 Consent Judgment Paragraph 2.A.20

2.1 Specific Language

The CJ language requiring the building ventilation study, reporting its findings, and MDNR approval is included here for reference:

"*20. On or before July 1, 2007, Doe Run shall submit a work plan to MDNR for a building ventilation study for the Sinter Building, Blast Furnace Building, and Refinery Building. The work plan is subject to approval by MDNR. The work plan shall identify building openings, ventilation sources that are typically operated at continuous rates, ventilation sources where rates can be varied, and a procedure for measuring inflow into the buildings. The goal of this effort shall be to develop a mathematical relationship between inflow rates and process and hygiene fan amperages, and to establish minimum fan amperages that assure particles emitted with the building are appropriately captured by the ventilation systems. Within 90 days of approval of the work plan by MDNR, Doe Run shall complete the ventilation study. Within 60 days of completion of the study, Doe Run shall summarize the findings and report these to MDNR. Upon approval of the study and its findings, the minimum fan amperages identified in the study shall become enforceable conditions of this Consent Judgment. If the parties are unable to agree regarding the findings of this study, the matter shall be submitted for dispute resolution pursuant to paragraph E below.*"

2.2 Summary of Requirements

Paragraph 2.A.20 of the CJ provides primarily for the measurement of fan amperages (as a surrogate for flow rates) to ensure that continuous building inflow is maintained from the three large process buildings at the Herculaneum facility. The ideal measurement would have been continuous inflow at all openings within these buildings. However, continuous inflow measurement is not possible due to the closing and opening of doors and equipment/employee traffic through doors. The requirement for inflow as a surrogate for particle capture was established at the Doe Run – Glover facility under a previously approved plan submitted by the department. The current requirement for 200 fpm inflow at each door is identical to the Glover plan.

The provision also requires Doe Run submit a work plan by July 1, 2007, for the study of ventilation flows and inflows. Doe Run made this submittal (included as Attachment A of Appendix 1) and the department approved the work plan on August 12, 2008. In this approval (Attachment B of Appendix 1), the department provided a set of attachments that detail guidance of collection of the inflow and flowrate/amperage data. As noted below, some of the requirements detailed by the department were not technically supported and required some minor changes to achieve the overall goal of the study. The modified requirements followed during the course of the study may be found in Appendix1: Attachment E paragraphs I.a.& I.b. and Attachment E Section 2. Doe Run complied with the results reporting requirement of this provision by submitting a final

report. Appendix 1 of this supplement is that report, proposal and supporting attachments. Ultimately, Doe Run provided a set of Work Practice Manual revisions pursuant to paragraph 2.A.20.(App 1: Attachment E) that have been approved by the department as part of this study. These Work Practice Manual changes are included as a reference to this submittal.

The final requirement is that Doe Run and the department agree on limits for continuous amperage (or flowrate) that will meet the inflow requirement. Also, these limits will be made enforceable conditions of the CJ. This agreement has been reached and the limits are contained in Attachment M of Doe Run's proposal and will be provided to the court after adoption of this plan revision to ensure the Judgment is updated with the new conditions.

2.3 Specific Issues/Solutions with Implementation of Paragraph 2.A.20

2.3.1 – Identification of Doors for Inflow Measurement

All doors within these buildings were inventoried during the initial work plan development process. However, some of the doors inventoried in this process have been "modified" due to low inflow measurements during the process. There are seven (7) doors total: five doors are shown in Attachment J – Sinter Plant Floor Diagram of the Doe Run submittal and four doors are shown in Attachment K – Blast Furnace Floor Diagram as boxes. These designations for these doors are S-4, S-25, S-26, R-4, B-7, B-8, and B-15. All these doors have been permanently removed or sealed. Other doors within the Sinter Building are currently in the process of being modified to eliminate or significantly reduce particle loss. The doors are indicated in Attachment J using triangles and include S-1, S-3, S-5, S-6, S-7, S-21, S-22, S-23, and S-28. As part of the department's approval of the study, personnel have reviewed the floor diagrams thoroughly and concur with the location and status reported in Doe Run's submittal for all doors. Further, the specific treatment of the sinter plant doors to be modified including dates for construction and method is reasonable and provides support for meaningful on-going particle capture within the sinter plant building.

The second floor of the sinter plant mix room (Sinter Plant Floor Diagram Doors S-11 through S-18 except S-16) does not have dedicated ventilation. To be clear, the first floor of the mix room does have direct ventilation from the sinter plant building, but the second floor has a steel floor (ceiling for the first floor) and has only one door between the sinter plant and the mix room. This means that no specific ventilation is required by the CJ for this room and the doors are not required to demonstrate inflow at the 200 fpm threshold. However, Doe Run, the department, and EPA Region VII personnel have collected inflow measurements for some of the doors on the 2nd floor of the mix room. Many of the doors have sufficient inflow due to secondary draft from the sinter plant during the minimum flow conditions required by this plan (either below from the ventilated mix room first floor or through door S-16 connecting the mix room and the sinter plant building proper). This data is included in Attachment C3. The mix room doors are denoted by diamonds in Attachment J of Appendix 1. Doe Run has proposed that,

although these doors are included in the approved work plan, no further inflow testing be required since there is no dedicated ventilation. The department concurs with this proposal and finds that there should be no additional inflow testing for the mix room exterior doors. However, door S-16 will continue to have the inflow testing requirement.

2.3.2 – Measurement of Meaningful Flow Data

Upon discussions with Doe Run and EPA Region VII personnel regarding the availability and usefulness of the measurements contemplated under 2.A.20, the agencies agreed to measure fans or groups of fans that will produce ventilation necessary to achieve meaningful ventilation within each building. This means that not all fans would need to be measured individually as long as the overall ventilation was providing sufficient draft to achieve the necessary inflow requirements. One example of this type of situation is the sinter plant combination trail that contains numerous fans, but was only able to be monitored in one location "downstream" of all the fans. Therefore, the approved limit was based on a collective flow rate for the entire trail and not any of the individual fans that comprise the trail. Pursuant to the work plan, the ventilation rates or amperages being sampled correspond to flow outside the bold line for each building (see Doe Run submittal – Attachment A).

2.3.3 – Use of Flow Rate Data Instead of Fan Amperages

Based on the language in 2.A.20, it is obvious that the department's intention was to continuously provide measurements of the overall ventilation system in these three (3) buildings. However, no discussion in this paragraph addresses ventilation fans or portions of the ventilation system that have the capability to continuously measure flow rate. As a direct measurement of the flow rate is superior to the measurement of fan amperage (a surrogate), the department has approved a representative flow limit on one group of fans with this capability in conjunction to the fan amperage limits required under the CJ. To be clear, the following portions of the ventilation systems have flow limits corresponding to other provisions of the CJ: #3 baghouse (225,000 acfm) and #5 baghouse (300,000 acfm). These portions of the ventilation system contribute significantly to the overall inflow of the applicable buildings (#3 baghouse – sinter plant and #5 baghouse – blast furnace) and are a key component to the overall system for each building.

In the same way as #3 and #5 baghouses, the sinter plant combination trail is being measured using continuous flow measurements. The CJ addresses the use of flow rate measurements versus fan amperages as part of paragraph 2.A.4, Sinter Plant Wheel Tunnel Ventilation. This provision requires the measurement of flow rates unless a relationship and corresponding calculation allow for use of the fan amperage surrogate.

Where applicable, the department is approving limits based on a direct flow rate measurement instead of the fan amperage surrogate identified in 2.A.20.

2.3.4 – Operation/Non-operation of the Sinter Plant

Initial surveys were conducted as part of the this comprehensive ventilation project, but did not prove completely satisfactory in characterizing the flow at the Sinter Plant due to a wide range of possible operating parameters as described below. The results of these initial surveys may be found in Appendices 2,3 and 4. The knowledge gained from these early testing campaigns aided in the development of the following solution for the Sinter Plant. The additional data obtained through these initial tests provided the department confidence in the approval of the rest of Doe Run's proposal.

The sinter machine and related processes are subject to significant changes in process gas temperature (~500 degrees Fahrenheit). The non-operation of the sinter machine decreases the temperature of the process air and causes the actual volumetric flowrate to decrease markedly. This is especially important due to the quasi-batch nature of the smelting process. This process gas temperature has a downstream impact on the flows in the combination trail discussed previously. In order to address this potential change in flowrate during periods of operation and non-operation, Doe Run proposed the use of two different minimum flowrates for this situation. Further, Doe Run proposed the use of two different triggers for sinter plant operation: on-off amperage readings from the sinter machine and the feed belt. Both continuous amperage readings must return zero (0) to use the lower, non-operational flowrate.

The other buildings process air (excluding the #5 baghouse air from the blast furnaces) does not experience such a wide temperature variation and is, therefore, not a problem. The #5 baghouse flow rate is set by the CJ and was not evaluated in this fashion.

Ultimately, the department approved the use of the two different operational scenarios due to the temperature fluctuations of the process gases from the sinter machine and the two separate triggers for the use of the non-operational flowrate.

2.3.5 – Flowrate and Amperage Determinations to Ensure Inflow

There are, at least, two distinct ways to approach the establishment of the ventilation limits under 2.A.20: the use of operating flowrates or amperages to establish the "normal" ventilation for each building assuming this will meet the inflow requirement or a verification that some less than "normal" flowrates or amperages will still meet the 200 fpm requirement at each door. The department utilized both approaches to a certain extent. Initial testing by the department and Doe Run identified that many doors were well above the 200 fpm threshold under "normal" operations. Further, doors that were below or very near the threshold were treated by one of several methods identified to eliminate or significantly reduce particle loss. These methods for man doors (less than 35 square feet) include removal of the door openings by permanent closure (e.g. welding shut), installing double door airlock chambers, or installing effective weather strip seals along with lock-out procedures. These methods for equipment doors (more than 35 square feet) include installation of heavy-duty industrial strip curtains or installing motorized roll up doors similar to the Railcar Unloader (Tippler) building. This proactive approach eliminates or dramatically reduces the potential emissions from these openings

and provides additional confidence that Doe Run is addressing lead sources on an on-going basis.

Based on several different rounds of inflow testing, flow rate measurements, and the evaluation of this data, Doe Run proposed the use of statistically derived minimum flow rate/fan amperage for each significant fan or group of fans within each building. The proposed limits were derived using a three sigma analysis performed by Doe Run and included as Attachments D and D2 of their submittal. Also, the rationale for this selection was included as Attachment O of the Doe Run submittal. Prior to department approval of this approach, additional inflow measurements were requested to ensure that each door's inflow would meet the 200 fpm threshold at these proposed flowrates/amperages. The outcome of this testing confirmed the inflow requirements would be met and the data are included as part of Attachment C to the Doe Run submittal. Therefore, the department was able to approve the use of the "normal" flowrates proposed by Doe Run with a verification of the inflow requirement for each door. As noted previously, if doors did not meet the minimum inflow, then a door project will address those openings.

2.3.6 – Measurement of Inflows Method/Door Characterization

As outlined in Doe Run submittal Attachment E-2, the measurement of inflow into doors is critical to the verification of particle capture/containment. The proposed inflow measurement methodology includes the use of a hand-held anemometer, a variable amount of measurement based on size of door (e.g. large area, or equipment, doors are measured nine times while small area, or man, doors are measured three times), and the use of the minimum door inflow reading as the metric for compliance with the inflow threshold (not the average of the readings). Further, Attachment G of the Doe Run submittal outlines the specific anemometer used for the current testing and subsequent testing of door inflows. The department approves the method proposed by Doe Run for the quarterly inflow testing of each door. (Attachment E Section2).

2.3.7 – Inflow Testing for Non-operation to Verify Flowrates

Due to the use of two different sets of minimum flowrates/amperages for the sinter plant combination trail (operation/non-operation), the inflow testing for the Sinter Building was conducted first for the operating scenario to identify doors. This sampling was conducted during the department's visit to the Herculaneum facility on May 12-15, 2009. This effort was used to not only verify compliance with the minimum inflows under worst case flow conditions, but also to identify a subset of doors that were the least likely to meet the inflow requirements. Then, subsequent inflow testing was conducted with the proposed minimum flow rate for non-operation at this subset of doors. The verification of these inflows provided sufficient assurance to approve both sets of (operation and non-operation) flowrates as part of this plan. These results are documented in Attachment C5 of the Doe Run submittal.

2.4 Enforceable Limits and Other Results

As required under paragraph 2.A.20 of the CJ, the department and Doe Run have agreed to the limits in Table 1, Minimum Flow Rates and Fan Amperages for the purpose complying with this provision.

Table 1: Minimum Flow Rates and Fan Amperages:

Sinter Plant Combination Trail Operation period minimum =	169,000 acfm
Sinter Plant Combination Trail Non-Operation minimum =	100,000 acfm
#6 Baghouse Fan =	70 amps
#7 Baghouse Fan =	210 amps
#8 Baghouse Fan =	73 amps
#9 Baghouse Fan =	163 amps
Sinter Wheel Tunnel Ventilation Fan =	58 amps

Upon adoption by the commission, these limits will become enforceable conditions of the CJ. In order to enforce these limits, two additional issues must be resolved. The first is the method for determining compliance with these limits. Per Doe Run submittal Attachment E, II. Fan Amperage Data Collection, Doe Run is required to collect amperage and flowrate, at least, every minute from all the fans or groups of fans defined in Section 1 of this plan revision. The datalogger associated with each fan (or fan group) shall be set up with a conditional format so that any 3 consecutive minutes of data below the respective required minimum set point sets off a warning alarm. These 3 minute warnings give the operator time to troubleshoot and repair any malfunctions or excursions from normal ventilation system operations. These datalogs are required to be kept for a period of five (5) years and will be made available upon department request.

Any 15 consecutive minute period below the minimum required flow rate or fan amperage shall trigger an actionable alarm. This alarm requires the company to take immediate action to ascertain its cause. These alarms shall be logged with a detailed description of the event to include the time and date of the alarm, the time and date of the flow restoration and all corrective or maintenance actions taken to restore flow to the required rate. The 15 consecutive minute alarm log shall be reported to the MDNR as part of the quarterly report described in Attachment E, Section VI.

In the event that the ventilation system in any process building is compromised to the point that it can no longer sustain the necessary fan amperage or flow meter level or a 15 minute alarm is triggered, all appropriate corrective action must be taken as quickly as reasonably possible up to and including the shut down of all processes within the affected building(s) without compromising the equipment. Operations within the building(s) shall not restart until the problem has been addressed, the ventilation system is fully operational, and the affected fan amperage or flow rate is back up to the required level. In addition, a flow test shall be conducted at the point(s) where the ventilation system failed verifying that the flow or fan amperages are meeting required levels within 24 hours of commencement of operation. In addition, the WPM revision details a process for department review of Doe Run corrective action as part of the quarterly report under paragraph VI.b. of the WPM amendment contained in Attachment E. Further, this review

may require Doe Run to provide additional WPM language to address such incidents in the future. Since there is no way to identify all possible failure causes or incidents of low flow alarm triggers, this type of reasonable action provision is necessary to ensure Doe Run is required to maintain and address any ventilation system failure.

Per the revised Work Practice Manual submittal, any failure to take appropriate corrective action as determined by the MDNR or any failure to properly log and record low flow conditions or any lack of compliance with the applicable provisions of the manual with respect to paragraph 2.A.20 shall constitute a violation of the CJ. The WPM including these amendments is fully enforceable under 10 CSR 10-6.120 and the CJ.

In summary, the department has found the Work Practices Manual revisions relevant to this project (contained in Attachment E of the Doe Run submittal), the minimum flow rates or amperages for all fans or groups of fans, and the overall approach identified by the Doe Run proposal will meet the objectives of paragraph 2.A.20 and provide sufficient inflow to capture and contain lead-bearing particles from the major process building at the Herculaneum facility.

3.0 Winter Construction Work Practices

3.1 1st Quarter 2008 Violation/Joint Meeting – June 25, 2008

During the first quarter of 2008, Doe Run monitored a violation of the NAAQS. The department sent a letter to Doe Run on May 30, 2008, informing the company of the violation and requested a meeting to discuss short and long term plans to address the violation. A meeting was scheduled on June 25, 2008, that was attended by Doe Run, EPA Region VII, and department personnel. The company informed the group that Doe Run was active in a period of heavy construction prior to the April 7, 2008, deadline for many projects as agreed to in the CJ. Further, based on the data analysis and review, it was discovered that the monitored values were primarily influenced by in-plant road dust sources due to construction equipment activities during periods of time when the watering system for the plant was not operating. The lack of operation was due to freezing temperatures that preclude the use of water for safety reasons.

3.2 Doe Run Proposed Language

Doe Run has proposed the following language to be included in Work Practices Manual under *Construction Guidelines* paragraph on page 21-22:

Construction guideline
For Capital Construction Project

...
6. During cold weather, projects that have the potential to cause fugitive emissions will be suspended when the temperature is less than 39^{o}F, or whenever the application of water for dust suppression results in the formation of ice which could result in injury to plant personnel.

7. Consideration will be given to planning construction projects so that deadlines will not occur during winter (cold weather) periods when dust suppression water sprays cannot be used.

3.3 Approval/Rationale

This work practice manual revision was undertaken as part of the continual improvement process and NAAQS compliance assurance detailed under paragraphs 2.B.10, Continuous Monitoring and Ongoing Evaluations, and 2.B.12, Environmental Management System of the CJ. As can be seen, the work practices manual revision includes language that prohibits construction activities during this type of situation in the future.

These new winter construction restrictions will diminish impacts from construction-related traffic in the plant during times when water suppression can not be utilized. Therefore, the department approves this revision to the Work Practices Manual in response to the monitored violation during the 1st quarter of 2008.

4.0 Amperage Substitution for Flowrate Measurement Under Paragraph 2.A.4

4.1 Relevant Language

The following is the relevant language under paragraph 2.A.4 that allows for substitution of fan amperage for continuous measurement of flowrate from the sinter machine wheel tunnel.

"…As an alternative to continuously measuring flowrates, Doe Run may develop a calculation for the relationship of fan amperage and duct damper settings to ventilation rates and continuously record fan amperage. Doe Run shall submit the calculation to MDNR for review and approval."

4.2 Approval/Rationale

The relationship between flowrate and fan amperage was calculated as part of the paragraph 2.A.20 building ventilation study. Doe Run utilized existing fan amperage and flowrate data (included in Doe Run submittal Attachment H) to determine minimum amperage that would allow the flowrate limitations under 2.A.4 to be met (15,000 acfm).

The damper lever has been welded in place so that the damper cannot be opened or closed. This fixed damper position shall be maintained per II.b. of the WPM amendment.

Further, this approval of the amperage approach does not significantly impact the overall inflow into the sinter plant building (per 2.A.20) due to the limited volume of air being drawn from the wheel tunnel when compared to the other ventilation sources in the sinter building. The wheel tunnel ventilation is only 15,000 acfm when compared to the overall flowrate of 394,000 acfm under operating conditions and 325,000 acfm under non-operating conditions. These flowrates include the #3 baghouse/acid plant and the sinter plant combination trail.

5.0 Summary

This plan amendment addresses the requirement under Consent Judgment paragraph 2.A.20 to finalize the limits for flow rate and fan amperage that will lead to consistently protective inflow from the Sinter Building, the Blast Furnace Building, and the Refinery Building. These limits are presented below:

Minimum Flow Rates and Fan Amperages:

Sinter Plant Combination Trail Operation period minimum =	169,000 acfm
Sinter Plant Combination Trail Non-Operation minimum =	100,000 acfm
#6 Baghouse Fan =	70 amps
#7 Baghouse Fan =	210 amps
#8 Baghouse Fan =	73 amps
#9 Baghouse Fan =	163 amps
Sinter Wheel Tunnel Ventilation Fan =	58 amps

The ultimate goal for this study was to establish conditions that provide 200 feet per minute inflows at all openings (e.g. doors) to the outside atmosphere from each building. The department's approval of the Doe Run submittal affirms that these conditions will be met when the above amperage/flow rate limits are met and after completion of the previously discussed door projects under Section 2 of this document.

This plan amendment, also, approves Doe Run's response to the 1st quarter 2008 ambient monitoring violation. This response included a revision to winter construction practices in the company's work practice manual. Further, this plan amendment approves the use of the alternative measurement of appropriate fan amperage for the Sinter Machine Wheel Tunnel Ventilation, as addressed under paragraph 2.A.4 of the CJ.

With the submittal of all the ventilation study components and findings along with the department's approval, the state of Missouri has addressed all the requirements from the 2007 Consent Judgment and has determined the Herculaneum lead SIP is complete and approvable by EPA.

6.0 Appendix