

Appendix R

Holcim-Clarksville BART Draft Consent Agreement

August 18, 2008



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

AUG 18 2008

Mr. Alan Greer
Plant Manager
Holcim – Clarksville
14738 Highway 79
Clarksville, MO 63336

Re: Best Available Retrofit Technology (BART) finding and Consent Agreement for Clarksville's kiln system

Dear Mr. Greer:

The following is a summary of the Department of Natural Resources finding for BART on the Clarksville kiln system. With respect to oxides of nitrogen (NO_x), the department has received a portion of this study from CINAR Company detailing the emission reductions achieved by mid-kiln firing of tire-derived fuel (TDF). The department is requesting the full study to complete the necessary technical review. Based on confirmation of the results from this study, the department will likely find that mid-kiln firing of TDF will result in a cost-effective control on NO_x that will satisfy BART for Holcim-Clarksville. This finding is supported by the following:

- (1) the kiln system already utilizes low-NO_x burners in the kiln;
- (2) the kiln system already utilizes cement kiln dust insufflation for NO_x control;
- (3) the department concurs with the finding of technical infeasibility for flue gas recirculation and selective catalytic reduction due to lack of commercial application for these technologies on the type of kiln system operated at Clarksville (long, wet);
- (4) the department concurs that selective non-catalytic reduction (SNCR) and mid-kiln firing of tires are technically feasible (with some caveats regarding SNCR performance in a long, wet kiln system); and
- (5) the cost effectiveness of the mid-kiln firing NO_x control and the increased certainty of emission reduction supports its choice over SNCR in this specific case.

The evaluation for control of sulfur dioxide (SO₂) for the Clarksville kiln system included fuel substitution, raw material substitution, dry scrubbing, and wet scrubbing. The department concurs with your finding that fuel substitution and dry/wet scrubbing are technically feasible for SO₂ control. The department has some reservations with the scrubbing technology cost analysis used in your proposal. However, the department's analyses demonstrate the cost of scrubbing technology would significantly impact the Clarksville kiln's ability to compete in the cement production market (e.g. nearly \$20/ton clinker produced). Therefore, the department has found



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Mr. Alan Greer
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that switching to a lower sulfur fuel with the use of TDF will satisfy the SO₂ BART requirements for the Clarksville kiln system.

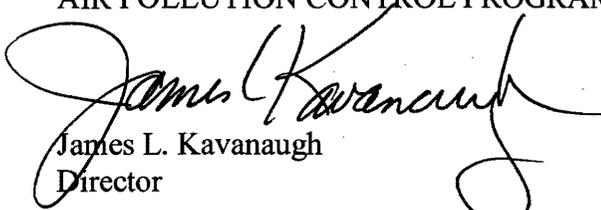
The enclosed draft consent agreement documents the department's findings for BART. The department has determined the emission limits in the agreement should be expressed as 30-day rolling averages to allow for operational variability in the kiln system and to remain consistent with the averaging time utilized by the Environmental Protection Agency's (EPA) presumptive BART findings for electric generating units. This draft agreement has not been shared with EPA Region VII staff and will undergo their review before signature to ensure it is "approvable" for inclusion in the regional haze State Implementation Plan.

There are two specific issues in the agreement for your technical review: (1) missing continuous emission monitor data substitution and (2) calibration/quality assurance of the emission monitoring system. These two provisions have been designed to encourage a discussion between Holcim and the department regarding these important monitoring issues.

Overall, Holcim's willingness to provide the necessary information to address the federal regional haze requirements has been encouraging. At this point, we look forward to finalizing the agreement and incorporating it into the regional haze State Implementation Plan. If you have questions about the emission limits or other technical details, please contact Jeffrey D. Bennett with the department's Air Pollution Control Program at P.O. Box 176, Jefferson City, Missouri 65102 or by telephone at (573) 751-8406. If you have questions regarding the legal requirements of the agreement, please contact Sarah Callier with the department's Division of Environmental Quality at (573) 522-9911.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



James L. Kavanaugh
Director

JLK:jbt

Enclosure

c: Ms. Sarah Callier, Division of Environmental Quality, Legal Counsel

REGIONAL HAZE AGREEMENT

The parties hereto, the Missouri Department of Natural Resources and Holcim (US) Incorporated- Clarksville, having agreed that entry of this Regional Haze Agreement (hereinafter "Agreement") is in the best interest of the parties and the public health and the environment, hereby represent and state as follows:

JURISDICTION

1. The Missouri Department of Natural Resources (hereinafter "Department") is a duly authorized state agency created under Chapter 640 of the Revised Statutes of Missouri (as amended) to administer the programs assigned to it related to environmental control and the conservation and management of natural resources.
2. Chapter 643 of the Revised Statutes of Missouri (as amended) provides that the Director of the Department, on behalf of the Missouri Air Conservation Commission, administers the provisions of the Missouri Air Conservation Law.
3. Holcim (US) Incorporated- Clarksville (hereinafter "Holcim") is a Missouri corporation in good standing and registered to do business in Missouri in accordance with Missouri laws and is subject to the Missouri Air Conservation Law and the regulations adopted thereunder. Holcim is the legal and rightful owner of the facility listed in paragraph 17.
4. Pursuant to RSMo 643.060, the Director has authority and jurisdiction to issue this Agreement and to enforce the same. In any action by the Department to enforce the terms of this Agreement, Holcim agrees not to contest the authority or jurisdiction of the Director to issue this Agreement.
5. The terms of this Agreement shall be construed in accordance with the applicable laws of the state of Missouri and the United States.

STATEMENT OF PURPOSE

6. In entering into this Agreement, it is the mutual objective of the Department and Holcim to reduce the contributions of emissions from the facility, listed in paragraph 17, to regional haze at Mingo National Wildlife Refuge, Hercules Glade Wilderness Area, and Upper Buffalo Wilderness Area (in Arkansas), and to establish a schedule by which Holcim will achieve reductions in air pollution emissions of visibility impairing pollutants. This Agreement establishes enforceable emission limits pursuant to the Department's requirements to comply with the regional haze regulations identified in this Agreement which require the use of Best Available Retrofit Technology (BART) to applicable emission sources. This Agreement is not the result of any enforcement action or alleged non-compliance with any law, regulation, permit, or order and will enable Holcim

to timely comply with the Environmental Protection Agency (EPA) and the Department deadlines for BART and other unforeseen consequences.

PARTIES BOUND

7. This Agreement shall apply to and be binding upon the parties, their agents, successors, and assigns and upon all persons, contractors, and consultants acting under or for either the Department or Holcim or both.
8. The parties agree to undertake all actions required of them by the terms and conditions of this Agreement.
9. Notwithstanding the terms of any contract, Holcim is responsible for compliance with this Agreement and for insuring that its contractors and agents comply with this Agreement.
10. The activities conducted under this Agreement are subject to approval by the Department. Holcim shall make all reasonable efforts to provide all necessary information consistent with this Agreement requested by the Department.

LIABILITY

11. Nothing in this Agreement shall be considered an admission of any fact or acknowledgement of any liability by any party, nor shall anything in this Agreement be considered an admission of any fact or acknowledgement of any violation of any law, regulation, permit or order but will enable Holcim to timely comply with established EPA and Department deadlines for compliance with the regional haze regulations and other unforeseen requirements. Neither the State of Missouri nor any agency thereof shall be held out as a party of any contract entered into by Holcim in carrying out activities pursuant to this Agreement.

FINDINGS OF FACTS

12. In 1977, the U.S. Congress adopted §169 (42 U.S.C. 7491) of the Clean Air Act (CAA), setting forth the national visibility goal of restoring pristine conditions in national parks and wilderness areas designated as Class I Areas. When the CAA was again amended in 1990, Congress added §169B (42 U.S.C. 7492), authorizing further research and regular assessments of the progress made for visibility improvement.
13. EPA's Regional Haze Rule, 40 CFR 51.308 (Part P), was adopted July 1, 1999 and went into effect on August 30, 1999. The Regional Haze Rule aimed at achieving national visibility goals by 2064. This rulemaking addresses the combined visibility effects of various pollution sources over a wide geographic region. The 1999 Regional Haze Rule also singles out certain older emission sources that have not been regulated under other provisions of the CAA for

additional controls. Therefore, older sources that contribute to visibility impairment in Class I areas are required to implement BART.

14. On May 24, 2002, the U.S. Court of Appeals, D.C. District Court ruled on a challenge brought by the American Corn Growers Association against EPA's Regional Haze Rule of 1999. *American Corn Growers Association v. EPA*, 291 F.3d 1. The Court denied the American Corn Growers Association's challenge to the Regional Haze Rule and remanded the case to EPA. Pursuant to this remand, EPA proposed revisions to the Regional Haze Rule.
15. On July 6, 2005, EPA published a revision to the Regional Haze Rule, including Appendix Y, "Guidelines for BART Determinations Under the Regional Haze Rule," which provides direction to states on determining which older sources may need to install BART and how to determine BART.
16. Appendix Y of the Regional Haze Rule requires states to identify sources constructed between 1962 and 1977 in certain industrial categories, including portland cement production. Then, each state is allowed to consider whether the predicted (modeled) impact from each source's emissions on Class I areas has less than a significant contribution on visibility impairment (0.5 deciview). After both screening and refined air quality modeling evaluations for Missouri sources, Holcim was identified as a significant contributor to visibility impairment at Mingo Wildlife Refuge and Hercules Glade Wilderness Area in Missouri and Upper Buffalo Wilderness Area in Arkansas and was therefore required to install BART. The Department also determined that the magnitude of the direct Particulate Matter (PM) visibility impacts from Holcim at the relevant Class I areas were very minimal when compared to the overall impact. In addition, the controls already installed for direct PM emissions were evaluated and were determined to be sufficient to satisfy the BART requirements.
17. Based on these findings, the Department requested an evaluation of BART controls for Sulfur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) emissions at Holcim. An initial BART proposal was submitted by Holcim on April 20, 2008. Comments were provided by the Department which resulted in three additional submittals to clarify information and explore additional control options. Subsequent comments were provided to ask for clarification of some additional options for BART. As a result, Holcim has now provided sufficient information for the Department's BART finding at the Clarksville facility for the kiln system (including the following emission point ID).
 - A. EP-14
18. The Department's BART finding is based on the use of mid-kiln firing of tires and reduced sulfur fuel sources (coal, tires, and synthetic fuel) to control NO_x and SO₂ respectively from kiln operation.

AGREEMENT AND COMPLIANCE PLAN

19. Holcim agrees to fire fuels containing less than three percent sulfur by weight at all times in the Clarksville kiln system.
20. Unless otherwise specified in the Agreement, Holcim agrees to meet the following emission limits for the kiln system as expeditiously as practicable, but no later than five years after approval of Missouri's regional haze plan:
 - A. NO_x - 42,287 lb/day using a 30-day rolling average
 - B. SO₂ - 58,787 lb/day using a 30-day rolling average
21. Compliance with the limits listed in paragraph 20 shall be based on the continuous emission monitoring (CEM) system employed as of the effective date of this Agreement or an equivalent system utilized by Holcim that has been approved by the Department. The methodology listed in subparagraphs A through D below shall be employed for the substitution of missing CEM data during periods of kiln operation for either NO_x or SO₂. For purposes of this Agreement, Kiln operation is defined as periods of time when the kiln is heated and rotation is occurring (NO_x emissions may occur when no fuel is being fired due to the residual heat in the kiln).
 - A. 1-4 missing hours – the average of the hour preceding and the hour following the missing hours will be used;
 - B. 5 – 24 missing hours – the maximum hourly emissions measured in the preceding month will be used for each missing hour;
 - C. Over 24 missing hours up to 5 days – the maximum hourly emissions in the preceding three months will be used for each missing hour;
 - D. Over 5 missing days – the maximum hourly emissions in the preceding 12 months will be used for each missing hour.
22. The continuous emission monitoring system shall be calibrated quarterly for SO₂ and NO_x emission measurement in accordance with an approved Quality Assurance Project Plan (QAPP) to be submitted no later than 90 days after the effective date of this Agreement. The QAPP shall address collection of all necessary parameters to calculate SO₂ and NO_x emissions, including flow-rate and concentration of the pollutants in the exit stream (measured in parts per million).
23. The emission limits in this Agreement shall be incorporated into any construction or operation permits issued for Holcim – Clarksville.
24. This Agreement shall be proposed by the Department for incorporation into the Regional Haze State Implementation Plan for Missouri.

CONCLUSIONS OF LAW

25. Holcim is a person within the meaning of RSMo 643.020.
26. RSMo 643.060.4 provides that the Director of the Missouri Department of Natural Resources is responsible for administering and enforcing the Missouri Air Conservation Law, investigating complaints, issuing orders and taking all actions necessary to implement the Missouri Air Conservation Law. RSMo 643.060.2 provides that the Director is authorized to enter into contracts as he deems necessary for carrying out the provisions of the Missouri Air Conservation Law. In addition, the Missouri Air Conservation Commission is granted the legal authority under RSMo 643.050 to develop and implement regulations and enter into agreements to control air pollution.

BEST PROFESSIONAL JUDGMENT

27. The requirements of this Agreement represent the best professional judgment of the Department based on information available as of the effective date of this Agreement. If circumstances change significantly so that data related to the commitments of this Agreement indicates an imminent threat of danger to the public health, safety or the environment or if the Department determines there is a significantly different threat other than the issues addressed herein, then the Department reserves the right to modify dates or requirements herein as it deems reasonably necessary to comply with the regional haze regulations, provided that the Department gives Holcim at least 90 days notice and an opportunity to submit a compliance schedule after the 90 day notice period. Holcim further reserves the right to appeal any such modifications or additional requirements in accordance with paragraph 30.

FORCE MAJEURE, EXCUSABLE DELAY, MODIFICATION

28. The following shall constitute the governing terms for force majeure, excusable delay, and modification of the Agreement:
 - A. Holcim shall perform the requirements under this Agreement within the time limits set forth herein unless the performance is prevented or delayed solely by events which constitute a force majeure. For purposes of this Agreement a force majeure is defined as any event beyond the control of Holcim which could not be overcome by due diligence and which delays or prevents performance by a date required by this Agreement. Such events do not include increased costs of performance or changed economic circumstances. Any delay caused in whole or in part by action or inaction by municipal, state, or federal regulatory authorities or third parties unrelated to Holcim shall be considered a force majeure and shall not be deemed a violation of any obligation required by this Agreement.

- B. Holcim shall have the burden of proving all claims of force majeure. Failure to comply by reason of force majeure shall not be construed as a violation of this Agreement.
- C. Holcim shall notify the Department in writing within ten (10) days after becoming aware of an event which Holcim knew or reasonably should have known constituted force majeure. Such notice shall estimate the anticipated length of delay, its cause, measures to be taken to minimize the delay, and an estimated timetable for implementation of these measures. Failure to comply with the notice provision of this section may constitute a waiver of Holcim's right to assert a force majeure claim and may be grounds for the Department, at its sole discretion, to deny Holcim an extension of time for performance.
- D. Within ten (10) days of the receipt of written notice from Holcim of a force majeure event, the Department shall notify Holcim of the extent to which modifications to this Agreement are necessary. In the event that the Department and Holcim cannot agree that a force majeure event has occurred or if there is no agreement on the length of the extension, the dispute shall be resolved as set forth in paragraph 30.
- E. Any modifications to any provision of this Agreement shall not alter the schedule for performance or completion of other tasks required by this Agreement, unless specifically agreed to by the parties in writing and incorporated into this Agreement.
- F. This Agreement may be amended by mutual agreement of the Department and Holcim. Such amendments shall be in writing, shall have as their effective date the date on which they are signed by both parties and shall be incorporated into this Agreement.

DISPUTE RESOLUTION

29. The parties recognize that a dispute may arise between them regarding implementation of the action to be taken as herein set forth or other terms or provisions of this Agreement.

- A. If such dispute arises, the parties will endeavor to settle it by informal negotiations between themselves. If the parties cannot resolve the issue informally within a reasonable period of time, either of the parties may notify the other in writing stating its position with regard to the dispute and the reasons therefore. A party receiving such a notice of dispute will respond in writing within ten (10) days stating its position. The Department or Holcim shall then have an additional ten (10) day period or such longer time as the parties agree to respond. If the parties are still unable to reach an agreement, the matter shall be referred to the Director

of the Division of Environmental Quality, who shall decide the matter and provide a written statement of his decision which shall be incorporated into the Agreement

- B. This dispute resolution procedure shall not preclude any party from having direct recourse to court if otherwise available Missouri law.

OTHER CLAIMS AND PARTIES

30. Nothing in this Agreement shall constitute or be construed as a release for any claim, cause of action or demand in law or equity against any person, firm, partnership, or corporation not a signatory to this Agreement for any liability it may have arising out of or relating in any way to this Agreement.

EFFECTIVE DATE, TERMINATION

31. This Agreement shall become effective when signed by the Director of the Missouri Department of Natural Resources or his designee.
32. This Agreement will be terminated at such time that it is superseded by a future agreement, regulation, or other enforceable document that contains equivalent or more stringent emission limits. The Department will provide written notice to Holcim of said termination. Such notice shall not be unreasonably withheld.

AUTHORIZATION OF SIGNATORIES TO EXECUTE THE AGREEMENT AND BIND THE PARTIES

33. The parties hereto have affixed their signatures on the dates inserted below to acknowledge their agreement to this Agreement. The signatories to this Agreement certify that they are authorized to execute and to legally bind the parties they represent to this Agreement.