KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES
4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 ▪ FAX/377-7158

KA 624-09-12
July 24, 2010

Ms. Christy Devore
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

RE: ***Project No. 1210465-020-AC***
Response to RAI Letter dated May 21, 2010
Alternative Fuels Materials Testing, SAC Cement Kiln 1
Branford, Suwannee County

Dear Ms. Devore:

Enclosed please find four (4) copies of a response to your letter requesting additional information dated May 21, 2010 to Tom Messer at Suwannee American Cement (SAC). In accordance with Rule 62-4.050(3), I have sealed this letter with enclosure as certification by a professional engineer. The information provided below follows the sequence of your questions. Suwannee American Cement is proud to be a leader in innovative and environmentally progressive techniques to bring forth and establish the value to reduce, re-use, and recycle recovered materials from conventional wastes.

Please feel free to contact me at (352) 377-5822 or mlee@koooglerassociates.com or Krishna Cole, Suwannee American Cement at (386) 935-5023 or krishnac@suwanneecement.com, if you have any questions regarding this submittal. I sincerely appreciate your time and consideration for this innovative project.

Regards,

7/24/10

Max Lee, Ph.D., P.E. Date

cc: Krishna Cole, SAC
Cc: via email
Tom Messer, SAC: tomm@suwanneecement.com
Joe Horton, SAC: jbhorton@vcnainc.com
Celso Martini, SAC: cmartini@suwanneecement.com
Krishna Cole, SAC: krishnac@suwanneecement.com
Greg Strong, FDEP NED: greg.strong@dep.state.fl.us
Chris Kirts, FDEP NED: christopher.kirts@dep.state.fl.us
Kathy Forney, EPA Region 4: forney.kathleen@epa.gov
Heather Abrams, EPA Region 4: abrams.heather@epa.gov
Victoria Gibson, FDEP: Victoria.gibson@dep.state.fl.us

1. **Will the tire-derived fuel have the steel belts removed prior to delivery to SAC? What size will the tire-derived fuel be to go through the port hole?**

SAC proposes to use tire-derived fuel that has steel belt material included. The tires will be shredded to a 1.5" or less effective diameter. This sizing is expected, based on previous short term testing, to be adequate to flow through the port hole of the fly ash injection system. SAC understands the as-proposed CISWI rule may impact its use of alternative fuels that are derived from "solid waste" as defined in the proposed rule. However, SAC plans to move forward with this project and will not second guess the outcome of the proposed rule.

2. **What qualifies the manufacturer reject roofing shingles as asbestos free material (i.e., weight)?**

The manufacturer will certify in writing that no asbestos-containing materials were input to the production of the reject shingles. It should be noted that litigation initiated in the late 1980's has effectively banned the use of any form of asbestos in shingles. No potential supplier facilities of reject shingles use asbestos for roofing shingles and thus the certification can and would be obtained.

3. **Are there any federal requirements that prohibit firing roofing shingles containing less than 1% asbestos.**

The NESHAP (40 CFR 61, subpart M) does not specifically restrict the use of used shingles containing less than 1% asbestos as a fuel/raw material to cement kilns. There are no other known regulations that prohibit the firing of roofing shingles. It should be noted that the St. Mary's cement plant in Charlevoix, Michigan has been issued two permits to trial burn used roofing shingles. The first permit issued in October 2009 (permit No. 239-09) allowed a short trial of 210 tons of shingles. The first AC permit and subsequent summary report of the short term testing is attached (Attachment A). A second permit was issued in January, 2010 for trial burning of up to 3000 tons. The permit does not address asbestos. Cortney Schmidt with St. Mary's cement plant indicates that shingle providers are responsible to certify that no asbestos containing materials (ACM) was present. The two day trial report of used shingles burning in the calciner shows emissions of NOx, CO, and SO_2 were reduced by firing shingles. The second trial burn has not been completed.

It should be noted that FDEP air permits, 0810201-005-AC and 0970030-009-AC authorize to fire roof shingles in asphalt production. As discussed in the initial application, a number of states allow the firing of asphalt shingles in asphalt production. While the shingles are not completely combusted in asphalt production, significant melting and volatilization occurs.

An updated list of the most recent studies in which used shingles were analyzed for asbestos content are copied below from the website, www.shinglerecycling.org. In addition, the Waste Commission of Scott county, Iowa has tested 3700 consecutive loads of recycled shingles for asbestos content with 7 testing positive. Each of those seven loads were retested and results were negative. (source: Scott Schram, Iowa DOT, email 7/14/2010 to Max Lee). The Waste Commission is an excellent example of a developed economic market for reuse of shingles (http://www.wastecom.com/Content/Residential/Asphalt-Shingle-Recycling.aspx).

Clearly, the results shown below indicate that the proposed sampling and analyses of used shingles by SAC should provide adequate reassurance that SAC will not fire recycled shingles asbestos containing materials (i.e., having one percent or greater asbestos).

Iowa

A construction and demolition debris recycler in Iowa has sampled loads of shingles since 1999. The shingles are sampled by taking random grab samples from a load and having a laboratory analyze for asbestos using polarized light microscopy (PLM). Out of a total of 1791 samples tested, none was found to have detectable levels of asbestos.

Maine

An asphalt shingle recycler in Maine (see case study) tested 118 samples. Representative composite samples were collected on a per-incoming-load basis and analyzed using PLM. None of the samples was found to contain asbestos.

Massachusetts

An asphalt shingle recycler in Massachusetts tested incoming asphalt shingles on a per-load basis. A total of 2,288 composite, representative samples were taken from the incoming product. Samples were analyzed using PLM. Twelve samples contained asbestos, but 11 contained less than 1% [NESHAP defines ACM as any material containing more than 1% asbestos]. The twelfth sample had 2% asbesto. These results, as defined by NESHAP, show only 1 in 2, 288 samples had sufficient asbestos to categorize it as ACM. Samples were also collected from the tarpaper and the outgoing

finished product and analyzed using PLM. Out of 69 tarpaper samples, two contained over 5% asbestos and two contained less than 1% asbestos. Out of 109 finished, outgoing product samples, two contained less than 1% asbestos. (see "Asbestos analysis of Post-Consumer Asphalt Shingle Waste")

Missouri

Testing results were provided by the Missouri Division of Environmental Quality. During an asbestos survey, six shingle samples were collected and analyzed with PLM. No asbestos was detected.

Florida

Shingle testing was completed as a part of the "Roof to Roads" project. Two hundred and eighty-seven samples were taken of incoming shingles: 2 tested above 1% for asbestos. Seventeen samples were also taken during the shingle grinding process. None of the samples had asbestos over 1%.

4. **The Department will prohibit chromated copper arsenate (CCA) treated lumber from being burned. Please comment.**

SAC agrees to this limitation. Similar to the recently issued trial burn permit for the CEMEX Miami cement plant to burn clean woody biomass from the Miami-Dade County Resource Recovery Facility (0250014-031-AC), SAC proposes that woody biomass containing any potential lumber should have chromium and arsenic included in the material analyses. This will ensure CCA wood is not burned in this test trial. It is important to note that as an additional level of reasonable assurance beyond that stipulated above, SAC maintains that nonvolatile metals in a cement kiln have been shown to remain in the final cement product and not released to the air.[1].

5. **Does the request for the pre-consumer reject paper include bleached paper? What are chlorine content and hydrochloric (HCl) emissions?**

SAC requests that material analysis of trial burn pre-consumer reject paper include analysis of chlorine content. HCl emissions are not expected to be significantly different to that of coal firing given that the expected similar chlorine content of coal and reject paper.

The upper range of chlorine content[2] in Eastern coals is 0.88 % (weight, dry basis). It should be noted that the chlorine content of bleached and unbleached paper are about 0.071% and 0.007% by mass (dry basis) respectively[3]. Given the heat content of paper is typically 6500 btu/lb (reference 3 and also see initial application) and half of that of coal, SAC will internally target paper having less than 0.44 % (weight, dry basis) or less It is important to note, that in addition to concerns over HCl emissions, it is in SAC's best interest to limit chlorine inputs to also reduce aggressive corrosion that can be caused by chlorine compounds in the gas stream. In addition, this short-term trial is focused to the feasibility of the use of paper as a fuel. Results of analyses will provide a more definitive range of expected chlorine content.

This target value is not proposed as a limit because the literature indicates chlorine in waste paper should be less than that of coal and this permit is for a short-term trial burn to assess the feasibility of paper as a fuel.

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[1] Alternative Fuels in Cement Manufacture Technical and Environmental Review, CEMBUREAU, 1997

[2] Bragg, L.J., R.B. Finkelman, and S.J. Tewalt. 1991. Distribution of Chlorine in United States Coal. In Chlorine in Coal (Stringer, J. and d.d. Banerjee, eds.). Elsevier, Amsderdam. pp. 3 – 10.

A typical pre-consumer paper supplier is International Paper Products Corporation (IPPC) headquartered in Massachusetts. A discussion of the raw material used by IPPC is provided in Attachment B entitled, "Raw Material Overview". Note that the final product is not acceptable by IPPC if the chlorine content is 0.18 percent or greater. The overview from IPPC indicates bleached sulfate paper is accepted. Material analyses of the IPPC envirofuel cubes (Attachment B) shows an average of 0.07 percent chlorine.

6. **Other than office paper, what is post-consumer waste paper? Please describe the waste paper haulers and how this material will be received. Also include the chlorine content and hydrochloric (HCl) emissions.**

Post-consumer paper will be collected by a Material Resource and Recovery Facility (MRRF) or similar FDEP-solid waste permitted facility capable to provide post-consumer waste paper. The sorted paper, arrives at the facility presorted by the consumer via community recycling programs. The material is then further sorted and any contaminants removed. The sorted and bailed waste paper is normally sold to paper recycling facilities. Standard practices of the paper recycling industry help to ensure that the waste paper contains minimal contamination. This sorted waste paper may contain a range of paper products (e.g., cardboard, phone books, newspapers). As with any waste product, there is potential for contamination. However, the material sampling and analyses as proposed in the initial application provides reasonable assurance that SAC will have knowledge of contamination from the analyses and will reject materials that do not have the expected range of chemical and physical properties for waste paper. As noted above, chlorine content of bleached and unbleached paper are about 0.071% and 0.007% by mass (dry basis) respectively[3]. As such, SAC does not expect the chlorine content to be significantly different to that of coal even when comparing the chlorine content on a heat content basis.

Similar to pre-consumer reject paper, SAC proposes to target post-consumer waste paper having 0.44 % (weight, dry basis) or less chlorine content, verified through the proposed sampling and analysis.

7. **Please provide specifications on the carpet-derived fuel HCl emissions. Please submit the Lehigh cement plant permit and other permits, which authorize carpet-derived fuel.**

The Title V permit for this facility is attached (Attachment C). In addition, the report summarizing the study is attached (Attachment C). Carpet laboratory analyses (see Attachment C) show the chlorine content to range from 52 to 77 ppm. This value is far below that typical of coal (see question 5 response) even when comparing the chlorine content per heat content (heat content of carpet ranges from 17 to 28 MJ/kg in comparison to coal 33 MJ/kg). Chlorine emissions for carpet-derived fuel are expected to be lower. Figure 8 of the report in Attachment C shows EPA method 26A results of HCl emissions to be below that measured for coal firing. While the specific authorization for the trial burn could not be obtained, the results of testing shown in the report indicate CDF has similar or lower emissions to that of coal.

8. **Pursuant to Section 403.815, F.S. and Rules 62.110.106 and 62.210.350, F.A.C., publish the enclosed Notice of Appication in the legal advertisement section of a newspaper of general circulation meeting the requirements of Section 501.011 and 50.031, F.S. in the area by this project and provide proof of publication.**

The Notice has been published and has been submitted to the Department.

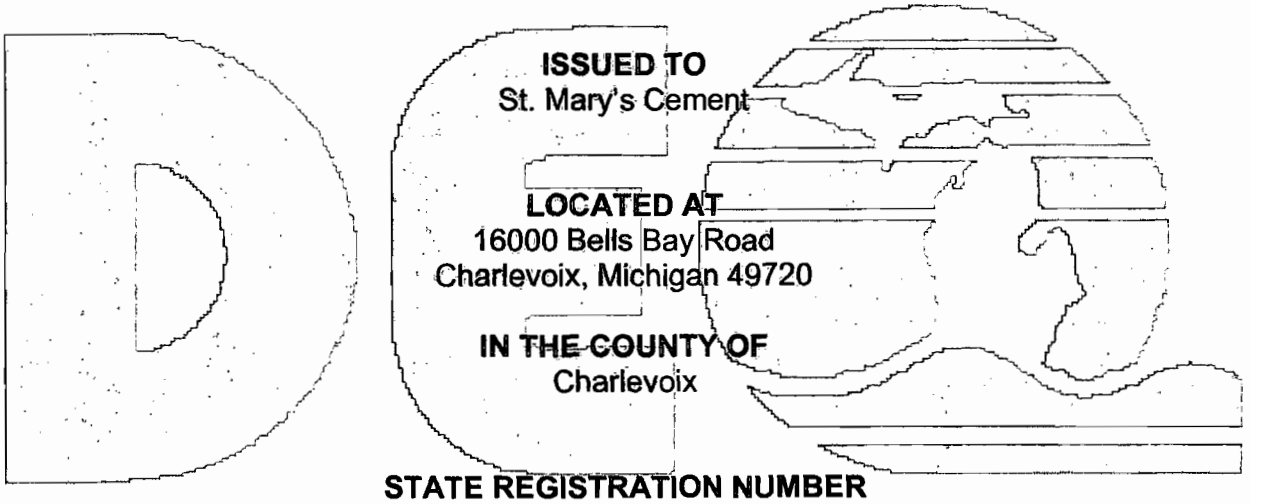
Attachment

A. St. Mary Cement Plant permits and Summary Report.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

October 16, 2009

PERMIT TO INSTALL
No. 238-09



ISSUED TO
St. Mary's Cement

LOCATED AT
16000 Bells Bay Road
Charlevoix, Michigan 49720

IN THE COUNTY OF
Charlevoix

STATE REGISTRATION NUMBER
B1559

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **10/12/2009**	
DATE PERMIT TO INSTALL APPROVED: **1016/2009**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUSHINGLES10-09	Trial burn for up to 210 tons of asphalt shingles as an alternative fuel in EUKILN.	October 16, 2009	FGKILNRAWMILLS
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to: EUSHINGLES10-09

DESCRIPTION: Trial burn for up to 210 tons of asphalt shingles as an alternative fuel in EUKILN.

Flexible Group ID: FGKILNRAWMILLS

POLLUTION CONTROL EQUIPMENT: Baghouse, Electrostatic Precipitator

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

1. The permittee shall not burn more than 210 tons of asphalt shingles during the trial burn authorized by this permit to install. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall only feed the asphalt shingles to EUKILN between the kiln and the calciner. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall obtain ultimate and trace elements fuel analyses of the coal/PET coke and asphalt shingles in use when the asphalt shingles are used as fuel. These analyses shall also include determination of the chlorine and BTU content of the fuels. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall obtain an ash analysis of the coal/PET coke and asphalt shingles in use when the asphalt shingles are used as fuel. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the asphalt shingle feed rate in tons per day through EUKILN on a daily basis with instrumentation acceptable to the AQD. All records shall be made available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. While burning asphalt shingles as fuel in EUKILN, the permittee shall operate the NOx, SO_2, and CO CEMS. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. While burning asphalt shingles as fuel in EUKILN, the permittee shall operate the COMS. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VII. REPORTING

1. The permittee shall submit the asphalt shingle feed rate records to the Department no later than December 15, 2009. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall submit the NOx, SO_2, and CO CEMS monitoring data for each day asphalt shingles are burned as fuel in EUKILNS and for two days of normal operation immediately prior to the use of asphalt shingles as fuel in EUKILN to the Department no later than December 15, 2009. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. The permittee shall submit the COMS monitoring data for each day asphalt shingles are burned as fuel in EUKILNS and for two days of normal operation immediately prior to the use of asphalt shingles as fuel in EUKILN to the Department no later than December 15, 2009. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

4. The permittee shall submit the fuel and ash analyses of the coal/PET coke and asphalt shingles obtained in accordance with SC V.1 and SC V.2 to the Department no later than December 15, 2009 or an alternate date agreed to by the AQD District Supervisor. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

1. At least seven calendar days prior to burning asphalt shingles as fuel in EUKILN, the permittee shall notify the AQD District Supervisor in writing of the date asphalt shingles will be burned as fuel in EUKILN. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall complete the trial burn authorized by this permit to install by November 30, 2009. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

St. Marys Cement, Inc. (U.S.)
Charlevoix Plant
P.O. Box 367
16000 Bells Bay Road
Charlevoix, MI 49720
Phone – 231-547-9971
Fax – 231-547-6202

ST MARYS

USPS Mail

December 8, 2009

C/O Andrew Drury
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909-7760

Re: St Marys Cement Inc, Report to MDEQ on PTI 238-09

Dear Andrew:

The following letter represents St Marys Cement Inc, Charlevoix Michigan Plant (SMC) report to the MDEQ to meet the special conditions of the Permit To Install (PTI) 238-09. In October 2009, SMC obtained approximately 190 tons of processed shingles from:

Crutchall Resource recycling
200 32nd street
Wyoming, Michigan 49548

SMC's objective for the shingle trial was to determine if there were any obvious issues with the handling and consumption of shingles in the cement manufacturing process which would preclude further investigation of shingles as a possible alternative fuel. The trial consumption began at 1200 hrs on 11/09 and we had completely consumed the shingles by 1300 hrs on 11/11

SMC utilized an existing clinker reclaiming system to deliver the shingles into the kiln. The clinker reclaim system is fitted with a gravity tipping valve that would not work to our engineer's satisfaction under the weight of the shingles alone. To ensure safe operation and delivery of the shingles into the kiln system through this gravity tipping valve, the shingles were blended to a 50/50 mass mixture with an onsite source of clinker. Attached to this letter you will find the required PTI process data in tabular form. Table 1 is the normal operating data prior to the use of asphalt shingles. The following bullets will be helpful in understanding the tables:

- The "**preheater clinker reclaim scale**" data on tables 2, 3, and 4 represents the hourly tonnage of an approximately equal mass of clinker and shingles delivered to the kiln system. Divide the indicated tonnage by half to obtain the mass of shingles introduced into the kiln system.

- The **"kiln feed belt scale"** column in the provided tables represents the hourly average of raw feed entering the kiln system during the trial. A value of greater then 300 tons per hour is generally considered running at close to full production.

- The remained of the tables cover the hourly average values from the main and bypass COMs and CEMs units. Attached to the end of this report you will find the required lab data, covering samples of coal, pet coke and the shingles. These samples were collected as grab samples on the same day and sent to the same lab.

Results of trial:

SMC concludes that the shingles as fired did not appear to create any obvious issues with the quality of product produced.

Note: This was a very short trial, the intent of which was to investigate handling characteristics.

Note: Based on the mass of shingles consumed it would not have been expected to alter the quality.

It was determined that the shingles can become overly processed and create dust during the handling stages. Any long term permitted use of this product should take this into account. The location that the shingles were consumed in the process appears to have created a reduced oxygen condition as the gas flows entered the calciner. This reduced oxygen condition may have caused a reduction in nitric oxide emissions generated in the calciner and emitted at the main stack. We would investigate this further with a longer trial. The level of lead in the shingles was determined to be higher then the coal that it replaced so this would limit total fuel replacement as follows. When taking into account the BTU difference it appears that any substitution of shingle for coal will need to be less then 32.56 % based on the BTU value consumed in the process to avoid a PSD review caused by lead. This 32% value then becomes a theoretical maximum coal substitution rate.

Overall SMC was pleased with the results of this trial and would like to propose an additional trial be conducted January 1, 2010 to March 1, 2010. During this trial SMC would like to consume up to 3000 tons of shingles to make determinations on qualitative impacts on clinker emissions, and the process itself. Based on BTU's, this would equate to replace 1500 tons of coal which is approximately a 6 day trail at 100% substitution of coal in the calciner. More likely this would be a 15 to 20 day trial. If you need any additional information, please contact me at 231-237-1342.

Sincerely,

Cortney Schmidt
Environmental Manager - Charlevoix
Cc: File

TABLES

SMC-Table 1- TWO DAY DATA PRE SHINGLES

		Preheater Clinker Reclaim Scale	KILN FEED BELT SCALE	MAIN STACK OPACITY	BYPASS STACK OPACITY	MAIN STACK NOX (PRIMARY)	MAIN STACK SO2 (PRIMARY)	MAIN STACK CO	BYPASS STACK NOX	BYPASS STACK SO2	BYPASS STACK CO
Date	Hour	t/h	t/h	%	%	ppm	ppm	ppm	ppm	ppm	ppm
11/6/2009	00:00 - 01:00	8.25	309.8	4.31	0.97	253.3	539.6	2541.8	64.8	42.7	14.2
11/6/2009	01:00 - 02:00	5.75	303.5	4.09	0.91	318.6	407.0	1674.9	63.9	6.7	3.7
11/6/2009	02:00 - 03:00	7.54	299.7	4.12	0.96	348.9	301.0	1259.5	74.4	7.0	2.1
11/6/2009	03:00 - 04:00	8.27	299.9	4.19	1.00	343.0	334.7	1313.4	72.8	13.0	2.4
11/6/2009	04:00 - 05:00	9.64	304.4	4.25	0.98	340.9	382.1	1568.6	71.3	16.8	1.1
11/6/2009	05:00 - 06:00	9.34	309.0	4.16	0.95	372.4	468.5	1384.3	81.6	-0.3	0.2
11/6/2009	06:00 - 07:00	9.19	310.2	4.02	1.05	333.7	555.9	1720.2	72.5	-0.2	1.6
11/6/2009	07:00 - 08:00	7.68	310.1	4.05	1.06	294.2	495.8	1434.0	60.6	2.6	5.1
11/6/2009	08:00 - 09:00	8.96	309.9	5.51	2.51	304.6	547.3	1694.6	97.9	105.6	199.0
11/6/2009	09:00 - 10:00	9.28	310.1	3.44	0.83	385.3	615.2	1214.5	61.9	-0.3	1.7
11/6/2009	10:00 - 11:00	9.73	309.9	3.25	0.76	399.8	544.6	1308.9	64.6	-0.5	1.9
11/6/2009	11:00 - 12:00	8.42	310.4	4.03	0.79	318.2	500.4	1868.1	61.0	7.8	9.2
11/6/2009	12:00 - 13:00	7.96	309.7	3.95	0.78	347.7	519.7	1795.0	70.0	2.1	3.5
11/6/2009	13:00 - 14:00	9.13	310.0	3.83	0.75	328.5	586.0	1827.9	72.4	12.9	8.0
11/6/2009	14:00 - 15:00	10.01	310.0	3.96	0.72	302.3	590.5	2069.2	68.2	32.7	15.8
11/6/2009	15:00 - 16:00	9.99	310.1	4.46	0.70	314.5	581.0	2044.5	74.5	40.5	13.2
11/6/2009	16:00 - 17:00	8.72	309.7	4.53	0.68	301.9	613.1	2323.7	75.3	45.3	17.5
11/6/2009	17:00 - 18:00	8.77	310.3	3.85	0.69	365.7	592.3	1870.9	92.5	14.5	8.0
11/6/2009	18:00 - 19:00	6.10	310.3	3.62	0.72	406.1	545.1	1675.5	105.2	6.8	5.2
11/6/2009	19:00 - 20:00	7.59	309.8	3.80	0.75	436.4	509.0	1577.6	116.3	2.2	5.6
11/6/2009	20:00 - 21:00	6.68	309.8	3.73	0.72	428.4	501.1	1720.1	117.0	3.2	8.5
11/6/2009	21:00 - 22:00	9.15	309.9	3.83	0.69	426.3	501.0	1610.1	115.1	2.2	6.1
11/6/2009	22:00 - 23:00	5.13	310.1	3.79	0.70	459.1	451.6	1376.6	119.6	3.4	4.1
11/6/2009	23:00 - 00:00	5.13	309.3	3.15	1.70	493.3	789.8	1853.2	125.4	-1.0	2.2
11/7/2009	00:00 - 01:00	8.56	310.4	4.10	0.75	406.6	498.5	1611.1	94.0	-0.6	5.2
11/7/2009	01:00 - 02:00	8.70	310.6	4.03	0.78	426.1	464.0	1351.9	91.6	-0.9	6.0
11/7/2009	02:00 - 03:00	5.59	309.2	4.08	0.77	423.7	488.7	1399.4	91.5	-0.9	4.6
11/7/2009	03:00 - 04:00	8.34	310.5	4.11	0.76	396.8	494.9	1442.1	83.2	-0.9	6.3
11/7/2009	04:00 - 05:00	8.84	310.1	4.12	0.77	398.5	477.2	1454.5	81.9	-0.8	9.8

SMC-Table1 continue

		Preheater Clinker Reclaim Scale	KILN FEED BELT SCALE	MAIN STACK OPACITY	BYPASS STACK OPACITY	MAIN STACK NOX (PRIMARY)	MAIN STACK SO2 (PRIMARY)	MAIN STACK CO	BYPASS STACK NOX	BYPASS STACK SO2	BYPASS STACK CO
Date	Hour	t/h	t/h	%	%	ppm	ppm	ppm	ppm	ppm	ppm
11/7/2009	05:00 - 06:00	8.17	310.2	4.20	0.78	401.0	474.8	1554.6	87.9	-0.8	10.0
11/7/2009	06:00 - 07:00	9.50	310.1	4.03	0.83	432.8	482.5	1497.0	106.4	-1.1	7.4
11/7/2009	07:00 - 08:00	8.48	309.9	4.15	0.81	371.0	454.0	1299.8	93.9	-0.8	10.7
11/7/2009	08:00 - 09:00	8.07	309.4	5.71	2.29	413.2	489.0	1395.0	126.7	93.6	201.5
11/7/2009	09:00 - 10:00	10.09	310.3	4.34	0.76	413.1	504.3	1442.3	97.8	-0.9	10.7
11/7/2009	10:00 - 11:00	8.30	310.1	4.35	0.74	374.1	512.8	1509.8	82.3	0.1	11.9
11/7/2009	11:00 - 12:00	7.34	310.1	4.25	0.72	372.0	534.2	1527.8	81.3	-0.2	8.4
11/7/2009	12:00 - 13:00	8.12	309.9	4.30	0.75	355.5	501.6	1519.9	77.4	1.2	7.3
11/7/2009	13:00 - 14:00	9.08	310.0	4.42	0.77	349.2	470.5	1536.1	74.7	-0.3	7.5
11/7/2009	14:00 - 15:00	9.26	309.7	4.27	0.76	319.0	478.7	1685.5	61.5	1.1	10.1
11/7/2009	15:00 - 16:00	9.57	309.8	4.29	0.73	342.8	493.8	1585.3	70.5	1.1	8.3
11/7/2009	16:00 - 17:00	9.88	310.5	4.33	0.72	346.5	498.6	1506.3	72.2	1.1	7.1
11/7/2009	17:00 - 18:00	10.08	309.8	4.35	0.74	336.9	485.9	1464.0	64.5	0.2	7.5
11/7/2009	18:00 - 19:00	7.65	310.2	4.18	0.74	321.1	471.9	1558.2	54.6	0.1	9.2
11/7/2009	19:00 - 20:00	9.86	309.9	4.11	0.71	304.5	508.0	1712.5	52.2	3.7	13.5
11/7/2009	20:00 - 21:00	9.95	309.6	4.32	0.75	320.2	486.8	1403.2	54.8	-0.2	8.9
11/7/2009	21:00 - 22:00	9.83	310.0	4.47	0.92	277.6	470.8	1587.8	38.1	2.2	21.0
11/7/2009	22:00 - 23:00	4.68	310.3	4.38	0.72	306.6	488.9	1321.8	40.5	-0.8	2.5
11/7/2009	23:00 - 00:00	10.23	304.0	4.35	1.75	311.4	430.8	1450.2	43.7	-0.8	3.2

CEMS Units calbration included in average

100% Clinker feed rate

SMC Table 2- SHINGLE AT 3 TONS PER HOUR

		Preheater Clinker Reclaim Scale	KILN FEED BELT SCALE	MAIN STACK OPACITY	BYPASS STACK OPACITY	MAIN STACK NOX (PRIMARY)	MAIN STACK SO2 (PRIMARY)	MAIN STACK CO	BYPASS STACK NOX	BYPASS STACK SO2	BYPASS STACK CO
Date	Hour	t/h	t/h	%	%	ppm	ppm	ppm	ppm	ppm	ppm
11/9/2009	12:00 - 13:00	5.76	309.8	5.45	0.80	348.6	374.9	1257.5	50.9	-0.4	132.7
11/9/2009	13:00 - 14:00	5.72	309.5	5.38	0.82	363.4	376.6	1179.6	54.3	-0.6	110.1
11/9/2009	14:00 - 15:00	6.18	310.1	5.10	0.75	344.2	410.1	1120.3	49.3	-1.3	110.4
11/9/2009	15:00 - 16:00	6.39	310.7	5.01	0.76	340.5	411.2	1161.5	47.8	-1.1	99.1
11/9/2009	16:00 - 17:00	6.28	309.1	4.89	0.78	347.4	412.0	1113.9	48.6	-1.3	83.0
11/9/2009	17:00 - 18:00	6.00	310.0	4.79	0.78	342.5	425.8	1122.5	46.4	0.1	77.5
11/9/2009	18:00 - 19:00	6.12	310.3	4.84	0.78	343.7	414.5	1129.6	47.2	-0.4	77.1
11/9/2009	19:00 - 20:00	6.09	310.3	4.99	0.81	359.2	427.8	1141.5	50.6	-1.6	93.8
11/9/2009	20:00 - 21:00	5.98	310.1	5.03	0.83	352.7	417.1	1173.3	49.1	-0.2	109.9
11/9/2009	21:00 - 22:00	6.09	309.3	4.95	0.86	366.7	424.1	1138.9	55.3	-0.5	85.9
11/9/2009	22:00 - 23:00	5.93	310.7	4.95	0.85	353.1	426.1	1137.7	48.7	-0.9	116.2
11/9/2009	23:00 - 00:00	6.08	310.2	5.03	1.85	342.4	410.0	1106.3	44.2	-0.9	126.0
11/10/2009	00:00 - 01:00	6.68	309.5	5.08	0.78	348.2	416.6	1060.3	45.7	-1.5	98.4
11/10/2009	01:00 - 02:00	6.79	311.4	5.04	0.79	338.1	436.9	1111.1	42.1	-1.9	134.6
11/10/2009	02:00 - 03:00	6.35	309.0	5.00	0.84	310.5	436.7	1096.6	33.0	-1.6	169.5
11/10/2009	03:00 - 04:00	6.05	310.1	5.01	0.86	292.5	446.0	1095.7	25.7	1.5	180.7
11/10/2009	04:00 - 05:00	5.94	309.8	4.88	0.89	308.2	452.4	1089.5	31.2	-0.4	134.4
11/10/2009	05:00 - 06:00	5.74	310.0	5.10	0.97	303.2	455.2	1065.3	30.0	-1.5	130.8
11/10/2009	06:00 - 07:00	5.52	310.0	5.20	1.00	298.6	439.4	1191.0	30.6	6.9	145.0
11/10/2009	07:00 - 08:00	6.02	310.1	5.09	0.83	314.8	381.5	1015.4	41.9	4.5	95.6

50% Shingle and 50% clinker feed rate

SMC Table 3- SHINGLES AT 3.6 TONS PER HOUR

		Preheater Clinker Reclaim Scale	KILN FEED BELT SCALE	MAIN STACK OPACITY	BYPASS STACK OPACITY	MAIN STACK NOX (PRIMARY)	MAIN STACK SO2 (PRIMARY)	MAIN STACK CO	BYPASS STACK NOX	BYPASS STACK SO2	BYPASS STACK CO
Date	Hour	t/h	t/h	%	%	ppm	ppm	ppm	ppm	ppm	ppm
11/10/2009	08:00 - 09:00	7.07	309.8	6.32	2.29	355.1	396.0	1062.7	90.2	94.8	242.9
11/10/2009	09:00 - 10:00	7.24	310.2	5.00	0.81	338.6	385.9	1091.1	43.3	4.1	82.9
11/10/2009	10:00 - 11:00	6.42	310.1	5.16	0.79	355.5	385.9	1056.3	49.2	-0.9	70.6
11/10/2009	11:00 - 12:00	6.91	310.1	5.29	0.81	340.7	384.3	1140.6	45.5	-0.9	78.2
11/10/2009	12:00 - 13:00	7.00	309.7	5.36	0.87	345.3	373.4	1088.6	47.9	0.1	59.8
11/10/2009	13:00 - 14:00	7.10	310.5	5.28	0.94	349.6	387.3	1077.4	48.0	-0.9	64.3
11/10/2009	14:00 - 15:00	7.12	309.7	5.39	0.96	348.3	370.9	1050.0	49.3	-0.6	46.4
11/10/2009	15:00 - 16:00	7.02	309.7	5.35	0.96	343.2	377.7	1047.9	47.9	-1.9	41.1
11/10/2009	16:00 - 17:00	7.13	310.4	5.29	1.11	336.3	388.3	1023.3	46.4	-1.9	30.8
11/10/2009	17:00 - 18:00	7.21	308.3	5.18	1.12	337.3	375.9	1093.8	46.7	-1.6	34.9
11/10/2009	18:00 - 19:00	7.27	310.1	5.09	1.17	348.1	373.1	1096.2	50.9	-1.9	24.8
11/10/2009	19:00 - 20:00	6.34	309.8	5.25	1.34	352.7	378.9	1094.1	55.4	-2.0	22.4
11/10/2009	20:00 - 21:00	6.34	310.2	5.16	1.35	348.1	382.7	1079.0	51.3	-2.3	56.4
11/10/2009	21:00 - 22:00	7.36	310.0	5.25	1.57	342.9	372.4	1121.3	50.5	-1.7	30.1
11/10/2009	22:00 - 23:00	7.32	309.7	5.23	1.55	342.0	383.3	1109.7	50.8	-1.6	26.9
11/10/2009	23:00 - 00:00	6.12	310.0	5.13	3.11	342.9	389.5	1089.3	48.9	-1.1	30.8
11/11/2009	00:00 - 01:00	7.29	310.1	4.95	1.72	342.8	389.1	1069.4	48.8	-2.0	24.7
11/11/2009	01:00 - 02:00	6.93	309.9	4.75	1.62	335.6	388.7	1073.9	44.3	-2.0	46.5
11/11/2009	02:00 - 03:00	6.92	310.3	4.83	1.59	340.6	397.6	1057.5	45.4	-2.1	45.7
11/11/2009	03:00 - 04:00	6.87	309.8	4.82	1.68	335.4	393.2	1085.3	44.7	-2.0	51.0
11/11/2009	04:00 - 05:00	7.10	310.0	4.92	2.03	334.7	394.9	1105.8	45.9	-2.3	51.8
11/11/2009	05:00 - 06:00	7.14	310.1	4.97	3.10	337.8	360.3	1178.8	47.6	-1.7	44.2
11/11/2009	06:00 - 07:00	7.05	309.7	5.02	3.35	344.8	327.5	1169.3	50.3	-2.3	38.8

CEMS Units calbration included in average

50% Shingle and 50% clinker feed rate

SMC Table 4- SHINGLES AT 2.5 TONS PER HOUR

		Preheater Clinker Reclaim Scale	KILN FEED BELT SCALE	MAIN STACK OPACITY	BYPASS STACK OPACITY	MAIN STACK NOX (PRIMARY)	MAIN STACK SO2 (PRIMARY)	MAIN STACK CO	BYPASS STACK NOX	BYPASS STACK SO2	BYPASS STACK CO
Date	Hour	t/h	t/h	%	%	ppm	ppm	ppm	ppm	ppm	ppm
11/11/2009	07:00 - 08:00	6.17	310.1	5.11	6.06	325.9	315.5	1036.5	50.9	-2.6	54.9
11/11/2009	08:00 - 09:00	5.13	310.1	6.26	7.73	343.3	312.1	1243.0	92.3	91.3	271.3
11/11/2009	09:00 - 10:00	5.17	310.0	4.95	5.62	345.6	327.9	1278.7	50.7	-2.6	115.7
11/11/2009	10:00 - 11:00	5.34	309.9	5.04	4.86	347.9	353.5	1182.4	54.9	-2.7	103.0
11/11/2009	11:00 - 12:00	5.36	310.1	5.28	6.60	343.2	358.3	1232.5	55.3	-2.7	117.8
11/11/2009	12:00 - 13:00	5.04	307.6	5.29	7.11	342.5	338.0	1256.0	57.5	-2.7	124.1

CEMS Units calbration included in average

50% Shingle and 50% clinker feed rate

LABORTORY DATA

SGS

Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Coal Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken By:	Submitted
Date Received:	Oct 26, 2009	Sample Taken At:	Submitted
Product Description:	COAL		

SGS Minerals Sample ID: 491-0940311-001

		Method	As Received	Dry	DAF
Moisture, Total %		ASTM D3302	9.69		
Ash %		ASTM D3174	9.81	10.86	
Sulfur %		ASTM D4239 Method B	1.80	2.00	
Gross Calorific Value	BTU/LB	ASTM D5865	12115	13414	15048
Carbon %		ASTM D5373	26.33	29.16	
Hydrogen %		ASTM D5373	2.74	3.04	
Nitrogen %		ASTM D5373	1.28	1.42	
Oxygen %		ASTM D5373 (by diff)	48.35	53.52	
Chlorine, Cl %		ASTM D4208	0.07	0.08	
Mercury, Hg	UG/G	ASTM D6722		<0.02	

Tests	Result	Unit	Method

Vanessa Chambliss

VANESSA_CHAMBLISS

SGS North America Inc. | Minerals Services Division
16130 Van Drunen Road South Holland IL 60473 t (708) 331-2900 f (708) 333-3060 www.sgs.com/minerals

SGS

Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Coal Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken By:	Submitted
Date Received:	Oct 26, 2009	Sample Taken At:	Submitted
Product Description:	COAL		

SGS Minerals Sample ID: 491-0940311-001

Tests	Result	Unit	Method
ANALYSIS OF ASH			
Basis	IGNITED	---	ASTM D4326
Silicon Dioxide, SiO2	50.51	%	ASTM D4326
Aluminum Oxide, Al2O3	25.40	%	ASTM D4326
Titanium Dioxide, TiO2	1.20	%	ASTM D4326
Iron Oxide, Fe2O3	13.83	%	ASTM D4326
Calcium Oxide, CaO	2.90	%	ASTM D4326
Magnesium Oxide, MgO	0.86	%	ASTM D4326
Potassium Oxide, K2O	2.14	%	ASTM D4326
Sodium Oxide, Na2O	0.63	%	ASTM D4326
Sulfur Trioxide, SO3	1.98	%	ASTM D4326
Phosphorus Pentoxide, P2O5	0.31	%	ASTM D4326
Strontium Oxide, SrO	0.11	%	ASTM D4326
Barium Oxide, BaO	0.11	%	ASTM D4326
Manganese Oxide, MnO2	0.02	%	ASTM D4326
Undetermined	0.00	%	ASTM D4326
Sum of Oxides	100.00	%	ASTM D4326
Silica Value	74.17	%	ASTM D4326
Base Acid Ratio	0.26	---	ASTM D4326
T250 Temperature	2603	°F	ASTM D4326
Fouling Index	0.17	%	ASTM D4326
Alkalies as Na2O, Dry	0.22	%	ASTM D4326
Type of Ash	BITUMINOUS	---	ASTM D4326

Vanessa Chambliss

VANESSA_CHAMBLISS

SGS North America Inc. | Minerals Services Division
16130 Van Drunen Road South Holland IL 60473 t (708) 331-2900 f (708) 333-3060 www.sgs.com/minerals

SGS

Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Coal Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken By:	Submitted
Date Received:	Oct 26, 2009	Sample Taken At:	Submitted
Product Description:	COAL		

SGS Minerals Sample ID: 491-0940311-001

Tests	Result	Unit	Method
TRACE ELEMENTS - DRY BASIS			
Arsenic, As	4	µg/g	ASTM D3683
Beryllium, Be	1	µg/g	ASTM D3683 (Mod)
Cadmium, Cd	<1	µg/g	ASTM D3683 (Mod)
Chromium, Cr	16	µg/g	ASTM D3683 (Mod)
Lead, Pb	5	µg/g	ASTM D3683 (Mod)
Manganese, Mn	19	µg/g	ASTM D3683 (Mod)
Nickel, Ni	7	µg/g	ASTM D3683 (Mod)
Selenium, Se	1	µg/g	ASTM D3683
Zinc, Zn	9	µg/g	ASTM D3683 (Mod)

Vanessa Chambliss

VANESSA_CHAMBLISS

SGS North America Inc. | Minerals Services Division
16130 Van Drunen Road South Holland IL 60473 t (708) 331-2900 f (708) 333-3060 www.sgs.com/minerals

SGS

Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Petroleum Coke Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	PETCOKE		

SGS Minerals Sample ID: 491-0940311-002

		Method	As Received	Dry	DAF
Moisture, Total %		ASTM D4931	8.20		
Ash %		ASTM D4422 (Mod)	1.53	1.67	
Sulfur %		ASTM D4239 Method B	5.25	5.72	
Gross Calorific Value	BTU/LB	ASTM D5865	13661	14881	15134
Carbon %		ASTM D5373	77.93	84.89	
Hydrogen %		ASTM D5373	3.36	3.66	
Nitrogen %		ASTM D5373	1.42	1.54	
Oxygen (by diff) %		ASTM D5373 (by diff)	2.31	2.52	
Chlorine, Cl %		ASTM D4208	0.02	0.03	
Mercury, Hg UG/G		ASTM D6722		<0.02	

Tests	Result	Unit	Method

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Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Petroleum Coke Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	PETCOKE		

SGS Minerals Sample ID: 491-0940311-002

Tests	Result	Unit	Method
ANALYSIS OF ASH			
Basis	IGNITED	---	ASTM D4326
Silicon Dioxide, SiO2	24.37	%	ASTM D4326
Aluminum Oxide, Al2O3	7.72	%	ASTM D4326
Titanium Dioxide, TiO2	0.68	%	ASTM D4326
Iron Oxide, Fe2O3	11.27	%	ASTM D4326
Calcium Oxide, CaO	18.87	%	ASTM D4326
Magnesium Oxide, MgO	3.19	%	ASTM D4326
Potassium Oxide, K2O	0.59	%	ASTM D4326
Sodium Oxide, Na2O	0.93	%	ASTM D4326
Sulfur Trioxide, SO3	21.34	%	ASTM D4326
Phosphorus Pentoxide, P2O5	0.32	%	ASTM D4326
Strontium Oxide, SrO	0.09	%	ASTM D4326
Barium Oxide, BaO	0.14	%	ASTM D4326
Manganese Oxide, MnO2	0.55	%	ASTM D4326
Undetermined	9.94	%	ASTM D4326
Sum of Oxides	90.06	%	ASTM D4326
Silica Value	42.24	%	ASTM D4326
Base Acid Ratio	1.08	---	ASTM D4326
Fouling Index	0.93	%	ASTM D4326
Type of Ash	LIGNITIC	---	ASTM D4326

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Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Petroleum Coke Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	PETCOKE		

SGS Minerals Sample ID: 491-0940311-002

Tests	Result	Unit	Method
TRACE ELEMENTS - DRY BASIS			
Arsenic, As	<1	µg/g	ASTM D5056
Beryllium, Be	<1	µg/g	ASTM D3683 (Mod)
Cadmium, Cd	<1	µg/g	ASTM D3683 (Mod)
Chromium, Cr	10	µg/g	ASTM D3683 (Mod)
Lead, Pb	<2	µg/g	ASTM D3683 (Mod)
Manganese, Mn	58	µg/g	ASTM D3683 (Mod)
Nickel, Ni	240	µg/g	ASTM D3683 (Mod)
Selenium, Se	<1	µg/g	ASTM D5056
Zinc, Zn	36	µg/g	ASTM D3683 (Mod)

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Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Shingles Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	RDF OR TDF		
Comments:	NOTE: OXYGEN CAN NOT BE DETERMINED DUE TO ULTIMATE TOTALING OVER 100%.		

SGS Minerals Sample ID: 491-0940311-003

		Method	As Received	Dry
Moisture, Total %		ASTM E949	3.14	
Ash %		ASTM E830	69.72	71.97
Sulfur %		ASTM D4239 Method B	0.77	0.79
Gross Calorific Value	BTU/LB	ASTM E711	5842	6032
Carbon %		ASTM D5373	27.74	28.64
Hydrogen %		ASTM D5373	3.01	3.11
Nitrogen %		ASTM D5373	0.27	0.27
Chlorine, Cl %		ASTM D4208	0.04	0.04
Mercury, Hg	UG/G	ASTM D3684		0.11

Tests	Result	Unit	Method

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Analysis Report

December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Shingles Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	RDF OR TDF		
Comments:	NOTE: OXYGEN CAN NOT BE DETERMINED DUE TO ULTIMATE TOTALING OVER 100%.		

SGS Minerals Sample ID: 491-0940311-003

Tests	Result	Unit	Method
ANALYSIS OF ASH			
Basis	IGNITED	---	ASTM D4326
Silicon Dioxide, SiO2	46.96	%	ASTM D4326
Aluminum Oxide, Al2O3	12.96	%	ASTM D4326
Titanium Dioxide, TiO2	0.72	%	ASTM D4326
Iron Oxide, Fe2O3	7.74	%	ASTM D4326
Calcium Oxide, CaO	16.25	%	ASTM D4326
Magnesium Oxide, MgO	6.39	%	ASTM D4326
Potassium Oxide, K2O	1.83	%	ASTM D4326
Sodium Oxide, Na2O	2.26	%	ASTM D4326
Sulfur Trioxide, SO3	4.53	%	ASTM D4326
Phosphorus Pentoxide, P2O5	0.15	%	ASTM D4326
Strontium Oxide, SrO	0.03	%	ASTM D4326
Barium Oxide, BaO	0.09	%	ASTM D4326
Manganese Oxide, MnO2	0.09	%	ASTM D4326
Undetermined	0.00	%	ASTM D4326
Sum of Oxides	100.00	%	ASTM D4326
Silica Value	60.72	%	ASTM D4326
Base Acid Ratio	0.57	---	ASTM D4326
T250 Temperature	2264	°F	ASTM D4326
Fouling Index	2.26	%	ASTM D4326
Type of Ash	LIGNITIC	---	ASTM D4326

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December 07, 2009

ST MARYS CEMENT COMPANY
CHARLEVIOX PLANT
16000 BELLS BAY ROAD
CHARLEVOIX MI 49720

ATTN: CORTNEY SCHMIDT

Client Sample ID:	Shingles Sample	Sample ID By:	St. Mary's Cement
Date Sampled:	N/A	Sample Taken At:	Submitted
Date Received:	Oct 26, 2009	Sample Taken By:	Submitted
Product Description:	RDF OR TDF		
Comments:	NOTE: OXYGEN CAN NOT BE DETERMINED DUE TO ULTIMATE TOTALING OVER 100%.		

SGS Minerals Sample ID: 491-0940311-003

Tests	Result	Unit	Method
TRACE ELEMENTS - DRY BASIS			
Arsenic, As	<1	µg/g	ASTM D3683
Beryllium, Be	<1	µg/g	ASTM D3683 (Mod)
Cadmium, Cd	<1.4	µg/g	ASTM D3683 (Mod)
Chromium, Cr	41	µg/g	ASTM D3683 (Mod)
Lead, Pb	21	µg/g	ASTM D3683 (Mod)
Manganese, Mn	273	µg/g	ASTM D3683 (Mod)
Nickel, Ni	43	µg/g	ASTM D3683 (Mod)
Selenium, Se	<1	µg/g	ASTM D3683
Zinc, Zn	115	µg/g	ASTM D3683 (Mod)

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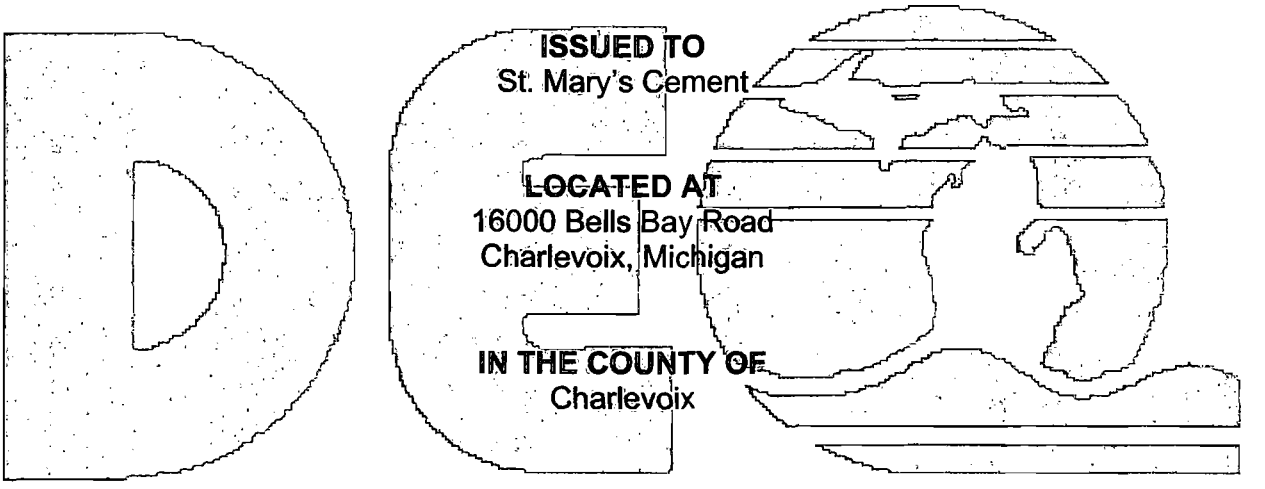
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

January 4, 2010

PERMIT TO INSTALL
242-09



ISSUED TO
St. Mary's Cement

LOCATED AT
16000 Bells Bay Road
Charlevoix, Michigan

IN THE COUNTY OF
Charlevoix

STATE REGISTRATION NUMBER
B1559

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **December 11, 2009**	
DATE PERMIT TO INSTALL APPROVED: **January 4, 2010**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUSHINGLETRIAL	Trial burn for up to 3,000 tons of asphalt shingles as an alternative fuel in EUKILN.	Date of PTI	FGKILNRAWMILLS
EUPLASTICTRIAL	Trial burn for up to 5,000 tons of non-chlorinated plastic as an alternative fuel in EUKILN.	Date of PTI	FGKILNRAWMILLS
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to: EUSHINGLETRIAL

DESCRIPTION: Trial burn for up to 3,000 tons of asphalt shingles as an alternative fuel in EUKILN.

Flexible Group ID: FGKILNRAWMILLS

POLLUTION CONTROL EQUIPMENT: Baghouse, Electrostatic Precipitator

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

1. The permittee shall not burn more than 3,000 tons of asphalt shingles during the trial burn authorized by this permit to install. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall only feed the asphalt shingles to EUKILN between the kiln and the calciner. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify, prior to burning asphalt shingles in EUKILN, the PM10, total chromium, lead, manganese, and total mercury emission rates from the main stack and the bypass stack by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

2. The permittee shall verify, while burning asphalt shingles in EUKILN, the PM10, total chromium, lead, manganese, and total mercury emission rates from the main stack and the bypass stack by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using the maximum amount of asphalt shingles that is feasible. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

3. The permittee shall obtain analyses of the mercury and BTU content of the asphalt shingles and the coal/PET coke in use when the asphalt shingles are used as fuel. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the asphalt shingle feed rate, in tons per hour, through each portion of EUKILN on a daily basis with instrumentation acceptable to the AQD. All records shall be made available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall monitor and record the coal and pet coke feed rate, in tons per hour, through each portion of EUKILN on a daily basis with instrumentation acceptable to the AQD. All records shall be made available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. While burning asphalt shingles as fuel in EUKILN, the permittee shall operate the NOx, SO_2, and CO CEMS. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

4. While burning asphalt shingles as fuel in EUKILN, the permittee shall operate the COMS. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VII. REPORTING

1. The permittee shall submit the coal, pet coke, and asphalt shingle feed rate records to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall submit the NOx, SO_2, and CO CEMS monitoring data for each day asphalt shingles are burned as fuel in EUKILN and for two days of normal operation immediately prior to the use of asphalt shingles as fuel in EUKILN to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. The permittee shall submit the COMS monitoring data for each day asphalt shingles are burned as fuel in EUKILN and for two days of normal operation immediately prior to the use of asphalt shingles as fuel in EUKILN to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

4. The permittee shall submit the analyses of the coal/PET coke and asphalt shingles obtained in accordance with SC V.3 to the Department no later than 60 days following the completion of the trial burn or an alternate date agreed to by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

1. At least seven calendar days prior to burning asphalt shingles as fuel in EUKILN, the permittee shall notify the AQD District Supervisor in writing of the date asphalt shingles will be burned as fuel in EUKILN. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. During the trial burn authorized by this permit to install, the permittee shall comply with Renewable Operating Permit (ROP) no. MI-ROP-B1559-2008 or subsequent revisions.

3. The permittee shall complete the trial burn authorized by this permit to install by June 30, 2010, or an alternate date agreed to by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to: EUPLASTICTRIAL

DESCRIPTION: Trial burn for up to 5,000 tons of non-chlorinated plastic as an alternative fuel in EUKILN.

Flexible Group ID: FGKILNRAWMILLS

POLLUTION CONTROL EQUIPMENT: Baghouse, Electrostatic Precipitator

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

1. The permittee shall not burn more than 5,000 tons of non-chlorinated plastic during the trial burn authorized by this permit to install. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall only feed the non-chlorinated plastic to EUKILN. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify, prior to burning non-chlorinated plastic in EUKILN, the total chromium, lead, manganese, and total mercury emission rates from the main stack and the bypass stack by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

2. The permittee shall verify, while burning non-chlorinated plastic in EUKILN, the total chromium, lead, manganese, and total mercury emission rates from the main stack and the bypass stack by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using the maximum amount of non-chlorinated plastic that is feasible. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

3. The permittee shall obtain analyses of the mercury, chlorine, and BTU content of the non-chlorinated plastic and the coal/PET coke in use when the non-chlorinated plastic is used as fuel. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the non-chlorinated plastic feed rate, in tons per hour, through each portion of EUKILN on a daily basis with instrumentation acceptable to the AQD. All records shall be made available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall monitor and record the coal and pet coke feed rate, in tons per hour, through each portion of EUKILN on a daily basis with instrumentation acceptable to the AQD. All records shall be made available to the Department upon request. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. While burning non-chlorinated plastic as fuel in EUKILN, the permittee shall operate the NOx, SO_2, and CO CEMS. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

4. While burning non-chlorinated plastic as fuel in EUKILN, the permittee shall operate the COMS. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VII. REPORTING

1. The permittee shall submit the coal, pet coke, and non-chlorinated plastic feed rate records to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. The permittee shall submit the NOx, SO_2, and CO CEMS monitoring data for each day non-chlorinated plastic is burned as fuel in EUKILN and for two days of normal operation immediately prior to the use of non-chlorinated plastic as fuel in EUKILN to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

3. The permittee shall submit the COMS monitoring data for each day non-chlorinated plastic is burned as fuel in EUKILN and for two days of normal operation immediately prior to the use of non-chlorinated plastic as fuel in EUKILN to the Department no later than 60 days following the completion of the trial burn. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

4. The permittee shall submit the analyses of the coal/PET coke and non-chlorinated plastic obtained in accordance with SC V.3 to the Department no later than 60 days following the completion of the trial burn or an alternate date agreed to by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

1. At least seven calendar days prior to burning non-chlorinated plastic as fuel in EUKILN, the permittee shall notify the AQD District Supervisor in writing of the date non-chlorinated plastic will be burned as fuel in EUKILN. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

2. During the trial burn authorized by this permit to install, the permittee shall comply with Renewable Operating Permit (ROP) no. MI-ROP-B1559-2008 or subsequent revisions.

3. The permittee shall complete the trial burn authorized by this permit to install by June 30, 2010, or an alternate date agreed to by the AQD District Supervisor. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

Attachment

B. IPPC Pre-consumer Reject Paper material analyses

International Paper Products Corporation
Raw Materials Origin Overview

This summary encompasses the general types of raw material feedstock processed by IPPC into its fuel product, Enviro-Fuelcubes®. The summary includes representative descriptions (such as waxed cardboard box) to illustrate what these materials might look like. These materials are typically not recycled in commerce for reasons related to technical or economic limitations. The representative sources for the raw material feedstock are also presented. They typically describe a "post industrial" or "pre-consumer" market sector. However, the same feedstock materials can be positively selected from other sources such as recognized recycling facilities or similar operations and are suitable for incorporation.

1 All materials processed into fuel by IPPC are selected for favorable combustion characteristics and compliance with operation and environmental standards. These materials are not hazardous or otherwise regulated materials. They are non-hazardous materials (or components for materials) found in commerce and retail supply chains.

2 Materials are selected after their chemical composition is determined. Specific attention is made to heavy metals, halogens (chlorine/bromine), nitrogen, sulfur and volatile/semivolatile organic compounds. Biohazard, liquid, or reactive materials are not accepted. Where manufacturer or process literature does not describe the composition of a prospective raw material, IPPC conducts materials analysis for parameters of concern.

3 Materials which have a high degree of homogeneity or other desirable chemical / physical characteristics are removed from the material stream for reuse or recycling. The remainder of the material stream is not suitable for reuse or recycling as it does not meet industry standards for quality or material content. These specifications can include physical characteristics, unfavorable/inseparable mixtures of materials, or otherwise environmentally benign treatments reducing or eliminating options for recycling (coated papers are an excellent example).

4 Regardless of the heterogeneous appearance of the materials on this list, the blended fuel product manufactured by IPPC conforms to the individual physical and chemical parameters found in IPPC's Enviro-Fuelcubes® (EFC) specification. EFC samples are collected throughout the manufacturing process and composited monthly for Quality Assurance Analysis. IPPC has established QA limits for key physical and chemical parameters. These limits are compared to the entire population of samples collected and analyzed within IPPC's QA program and are used for the "long term" characterization of our fuel product.

5 The sources listed in this summary are not fully inclusive. However, they represent the general material sources IPPC feedstock materials originate in. IPPC also includes within its eligible feedstock materials any post-consumer streams which are comprised of the same materials listed here. Materials of this type can be sourced from recognized recycling or collection operations and would represent a residual stream, positively selected for the components listed. The stream would not be a residual which would require further processing to remove nonconformances or prohibited materials.

6 De Minimis Non-Conformances (DMNC) may be found in the material stream. They will include ferrous and nonferrous metal fasteners, brackets, hinges, wires and banding which, in the case of ferrous metals, are typically removed by magnetic process equipment during manufacturing. Other DMNC includes occasional organic materials as food wastes, household garbage, wiping cloths, small batteries, machine parts and other such materials that can occasionally "contaminate" an IPPC incoming feedstock container. As each load received by IPPC is visually inspected, the great majority of these DMNC are quarantined and removed and so do not enter the fuel stream. The supplier locations which are responsible for introducing DMNC to the feed stock material are notified of DMNC or prohibited materials and subject to established corrective action procedures or supplier status termination.

FEEDSTOCK MATERIAL & EXAMPLES	TYPICAL SOURCES
PAPER	
Printing &Writing Paper	Original Article Manufacturers
Pre-Consumer Household & Sanitary Paper	Paper Goods Manufacturers and Converters
Wrapping & Packaging Paper and Paper Board	Game/Novelty Manufacturers/Distributors
Linerboard (chipboard)	Packaging Operations
Kraft Liner	Commercial and Retail Packaging Discards
Fluting (corrugated interiors)	Institutional Discards
Kraft Wrapping & Packaging	References www.fao.org/ http://www.fao.org/docrep/w5622t/w5622t4o.htm
Other Wrapping and Packaging Paper	

Folding Boxboard	
Other Paper Board (NES) (Box Liners, Laminated Surfaces)	

FABRICS - TEXTILES - NATURAL FIBERS

Dyed/Finished Natural Fiber (Cotton, Linen, Rayon, Wool) Curtains	Original Article Manufacturers (Curtain/Clothing Makers)
Dyed/Finished Natural Fiber Woven scrap/trim	Game/Novelty Manufacturers/Distributors
Polymer Fiber (nylon, polyester) Woven scrap/trim	Commercial and Retail Discards and Scrap, and Packaging Media
Undyed/Unfinished Natural or Synthetic Fiber scrap/trim	Secondary Manufacturer Discards and Scrap (Fabric added to article)

COATED PAPER

General Note: Most papers have a coating. It is usually clay or other inert material and can also include polymer/rubber or latex compounds. Coated papers in this category are those to which a second coating has been added in the form of a polymer film, additional paper laminate, metalized foils (Aluminum) and other similar applications. These materials are primarily at least one more process or down stream manufacturer from the retail market.

Polymer Laminated Wrapping Paper (Printed sandwich wrap)	Original Article Manufacturers
Game Boards and Boxes (Printed Kraft glued to boxboard)	Paper Goods Manufacturers and Converters
Foilized Wrapping Paper (Gift Wrap, Specialty Finished Coverings)	Game/Novelty Manufacturers/Distributors
Thermal Papers (Gas Station Receipts)	Packaging Operations
NCR Forms (No Carbon Multiple Copy Forms)	Commercial and Retail Packaging Discards
Specialty Papers for Filtration or Hygienic Applications (Diapers)	Institutional Discards
Adhesive Labels (Retail Beverage Containers, Ski Lift Tickets)	
Waxed Corrugated Cardboard (Watermelon Cartons)	
Other Specialty Coatings (Lottery Ticket Stock, Instant Oatmeal Pouches)	

WOOD MATERIALS

Heat Treated Pallets	Materials in this category obtained from all sources listed.
Oriented Strandboard	
Plywood	
Medium/High Density Fiberboard	
Dunnage (Packaging/Cribbing/Spacers)	

PAPER BASED PRODUCTS

General Note: This category includes those papers previously listed in their finished product forms and sourced from manufacturers, distributors and retailers as off-specification, obsolete (EX = *Congrats Class of 2007*), damaged or otherwise unsuitable for introduction to consumer supply due to conformity or defects not related to chemical formulation. These products may include primary and secondary packaging such as polyethylene film wraps and corrugated cardboard cartons.

Paper Based Games and Novelties (Monopoly, Greeting Cards)	Original Article Manufacturers
Promotional Displays	Paper Goods Manufacturers and Converters
Disposable Garments	Game/Novelty Manufacturers/Distributors
Gift Wrapping Paper	Packaging Operations
	Commercial and Retail Packaging Discards

POLYMERS & POLYMER BASED PRODUCTS

1 This category includes those materials which are either entirely or predominantly single or blended streams of non-halogenated polymers. Polymers which may be used for "E-Goods" and which have flame retardant or halogen additives are categorically excluded. The materials are finished or otherwise fully cured. They may be in the form of a manufacturing feed stock for additional processing or a formed/rendered article otherwise unsuitable for commerce due to conformity or defects not related to hazardous chemical formulation. Polymer products may be in the form of molded articles, films, or purge/scrap. Purge is a mass of polymer resulting from production change or material change. Scrap and trim result from manufacturing operations where the polymer is otherwise not suitable for return to vendor or primary recycler.

2 Polymers can include: Polyethylene and Polyethylene Terephthalate, Polypropylene, Acetyl, Acrylic, Alkyd, Asphaltenes, Cellulose Base (Rayon, Polylactic Acid), Elastane/Spandex, Epoxy, Formaldehyde (Melamine/Urea), Nitrile, Paraffin and Other Waxes, Petroleum Resin, Phenolic, Polyamide Nylon, Polybutylene, Polycarbonate, Polyvinyl Acetate, Styrene Butadiene Rubber (SBR), Poly-Styrene, Urethanes, Polyester, Latex, Rubber (natural or synthetic).

3 **Polymers which have halogens in their blending for flame retardance UV protection or other physical property enhancements are not accepted.**

Molded Articles or Components (Plastic Game Pieces, CD/DVDs, Containers, Landscape Structures)	Plastics Products Manufacturers
Films or Sheeting (Lexan, Ultra High Molecular Weight Polyethylene)	Game/Novelty Manufacturers/Distributors
Pliant and Loose (Landscape Fabric, Wrapping Films, Woven Fabrics)	Packaging Operations
Foams ("Peanuts", Expanding Cushions, "Instapak")	Commercial and Retail Packaging Discards
Tapes and Banding	

PACKAGING MATERIALS

General Note: This category consists of paper/coated paper, paper based, polymer based, fabric and wood materials whose express purpose is employment as primary or secondary packaging, cushioning or other similar applications used with goods in commerce. These materials are manufactured to establish standards and specifications for chemical and physical characteristics. Materials used as fuel feedstock in this category are subject to the same quantitative assessment as any other material considered by IPPC. IPPC draws from technical standards and association guidance to assist in identifying suitable materials. Cognizant agencies and trade organizations provide detailed guidance on hazardous materials reduction/elimination as well as life cycle management and sustainability. IPPC incorporates this information in its own Materials Life Cycle Management process.

Paper/Paper Based/Coated Paper	
Mechanical/Directory/Newsprint	Materials in this category obtained from all sources listed.
Solid Bleached Sulfate	
Wrapping & Packaging Paper and Paper Board	
Linerboard (chipboard)	
Kraft Liner	
Fluting (corrugated interiors)	
Kraft Wrapping & Packaging	
Other Wrapping and Packaging Paper	
Folding Boxboard, Flexible Containers, Totes, Tetrapaks	
Other Paper Board (NES) (Box Liners, Laminate Surfaces)	
Polymer Laminated Wrapping Paper (Printed sandwich wrap)	
Foilized Wrapping Paper (Gift Wrap, Specialty Finished Coverings)	
Specialty Papers for Filtration or Hygienic Applications (Diapers)	
Adhesive Labels (Retail Beverage Containers, Ski Lift Tickets)	
Waxed Corrugated Cardboard (Watermelon Cartons) Other Specialty Coatings (Lottery Ticket Stock, Instant Oatmeal Pouches)	

Packaging Materials, continued

Fabrics - Textiles - Fibers	Materials in this category obtained from all sources listed.
Woven/Nonwoven Natural/Synthetic Fibers (Scraps & Rags)	
Loose Natural/Synthetic Fibers	
Wood Materials	
Pallets or Skids (Heat Treated/Kiln Dried no HBr)	
Oriented Strandboard/Particle Board	
Plywood	
Medium/High Density Fiberboard	
Dunnage (Packaging/Cribbing/Spacers)	
Masonite	
Other Clean Wood	
Polymers & Polymer Based Products (Non-Halogenated)	
This category includes those materials which are either entirely or predominantly single or blended streams of non-halogenated polymers. Polymers which may be used for "E-Goods" and which have flame retardant or halogen additives are categorically excluded. The materials are finished or otherwise fully cured. They may be in the form of a manufacturing feed stock for additional processing or a formed/rendered article otherwise unsuitable for commerce due to conformity or defects not related to hazardous chemical formulation. Polymer products may be in the form of molded articles, films, or purge/scrap. Purge is a mass of polymer resulting from production change or material change. Scrap and trim result from manufacturing operations where the polymer is otherwise not suitable for return to vendor or primary recycler.	
Molded Articles (edge/corner protectors/casing)	
Expanded Foams (Instapak type fill, "peanuts", edge/corner protectors/casing)	
Films and Sheets (Flexible shrink films and wrappings)	
Other Molded or Formed Articles required for secure packaging	
Tapes and Banding	

ADHESIVES, COATINGS, DYES/PIGMENTS, INKS

1 Most paper, paper-based, natural fiber, polymer, and polymer based materials available in commerce have some form of "amendment" or "additive" typically in the form of adhesives, coatings, dyes/pigments, or inks applied to their surfaces, or as laminates or within their matrices. These materials are comprised of formulations of organic and inorganic compounds and metals. Their purposes serve to establish or improve mechanical properties, appearance, function of the material or finished article.

2 Raw material streams accepted by IPPC for manufacture of fuel will contain these materials to the degree necessary to meet industry and consumer standards. They will be present in their "finished" state as applied to the article or intermediate material stream.

3 These "amendments" and "additives" are inseparable from the material stream but are not present in such concentrations that their particular composition imparts a hazardous property to the individual feedstock stream or the finished, blended fuel stream.

4 The following are a list of common "amendments" or "additives" found in the material streams IPPC processes. This list is not inclusive of all such compounds that may be present in commerce or found in IPPC's raw material feedstock streams.

Adhesives	**Coatings**	**Dyes/Pigments**
Acrylic	Aluminum	Aluminum
Animal Glue	Carbonless Paper Coating	Bronze
Blood Glue	Emulsified Clay (Latex/SBR)	Carbon Black
Casein	Paint (Latex or Solvent Based)	Clay Earth
Epoxy (Acrylic/Cyanoacrylate/Polyurethane)	Paraffin & Waxes	Dye, Fluorescent
Formaldehyde (Melamine-MF, Phenol-PF, Urea-UF)	Silicone/Siloxane	Dye, Acid
Gum Arabic	Styrene Butadiene Rubber (SBR)	Dye, Basic
Hot Melt Acrylic/Rubber	Thermal Facsimile Coating	Dye, Sulfur
Isocyanate	**Inks**	Dye, Disperse
Latex	Flexographic	Dye, Reactive
Polyvinyl Acetate	Gravure	Iron Oxide
Silicone Rubber	Inkjet/Laser	Titanium Dioxide
Soy Bean Glue	Letterpress	
Starch	Offset	
Styrene Butadiene Rubber (SBR)	Screen	
	UV/EB (Ultraviolet/Electron Beam)	

Associations and Standards (examples)

Flexible Packaging Association	http://www.flexpack.org/
National Packaging Trades Association	http://www.gonpta.com/
National Wooden Pallet Association	http://www.nwpca.com/
Technical Association of the Pulp and Paper Industry	http://www.tappi.org/s_tappi/index.asp
World Packaging Association	http://www.packaging-gateway.com/

MANUFACTURED ARTICLES/PRODUCTS FOR DESTRUCTION

General Note: This category includes materials listed above which are not suitable for further distribution down the intended supply chain for reasons that may include unsuitability for commerce not related to hazardous chemical formulation. It also includes materials of a recyclable or non-recyclable nature that for reasons ranging from proprietary protection to document security must be rendered to an unrecognizable form and then thermally destroyed (burned for power).

OTHER CLEAN MATERIALS

General Note: This can include, but not be limited to agricultural/forestry residues and waste materials, biomass crops, biomass crop residues, and similar materials as may be found and defined in USDA eligible materials list. At this time, IPPC does not process ineligible materials except as may be found in wood pallets which have no further higher order utility or fabric/textiles which have no further higher order utility.

Attachment

C. Holcim TV permit, and Carpet Derived Fuel Study Authorization and Report.

Paper for presentation at the 2005 Conference on Incineration and Thermal Treatment Technologies, Galveston, TX, May 9-13, 2005

Emissions from Combustion of Post-Consumer Carpet in a Cement Kiln

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ABSTRACT

The Portland cement industry is interested in the utilization of post-consumer carpet as a fuel to replace a portion of its traditional fuels. In response to this interest, the Carpet and Rug Institute, US Department of Energy, Georgia Institute of Technology School of Chemical and Biomolecular Engineering, US Environmental Protection Agency, Lehigh Cement Company, and the American Society of Mechanical Engineers Research Committee on Industrial and Municipal Waste are performing a collaborative program to assess the feasibility of using cement kilns for the destruction of post-consumer carpet.

This paper reports on the results from cement kiln source sampling activities during two operating conditions: normal operation (firing coal at nominal load) and substituting shredded carpet for 15% of the total fuel value. The pollutants measured include fixed combustion gases, total filterable particulate matter (PM), PM with an aerodynamic diameter smaller than 10 μm (PM_{10}), particle size distributions, halogens, polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans, and the RCRA and Clean Air Act metals. The resulting data will be utilized by the collaborating parties to determine the operational, environmental, and economic feasibility of cement kiln co-firing as a strategy for the energy recovery of post-consumer carpet.

INTRODUCTION

Portland cement production is a very energy intensive process, requiring energy inputs ranging from 3200 to 5000 kJ/kg of clinker produced (1). The process for manufacturing Portland Cement involves heating limestone [calcium carbonate ($CaCO_3$)] to form calcium oxide (CaO) clinker. The cement industry has placed a high priority on energy savings as a primary means of achieving cost reductions. The fuel requirements of cement kilns (usually in the form of coal) represent the main energy cost associated with cement production. Some cement plants have successfully replaced a portion of their coal feed with other high heating value secondary fuels including tires and tire-derived fuel (2) or hazardous waste (3). Post-consumer carpet is another potential auxiliary fuel that could be used in cement kilns.

In the US, approximately 2.2-2.7 billion kg (5–6 billion lbs) of carpet is sold annually, of which 60% is for replacement (4). In spite of considerable effort in the past decade to develop recycling technologies for carpet wastes, most carpet continues to be disposed of in landfills (5). The development of economically viable, environmentally sound, high volume, robust systems for dealing with carpet waste would move the carpet industry closer to its goals of environmental stewardship and protection. Carpet has a heating value similar to that of coal, and carpet contains a significant fraction ($\approx$ 30 % by weight) of $CaCO_3$ in the backing, which suggests that carpet might be an ideal supplemental fuel for cement kilns because the major inorganic impurity in the carpet would be incorporated into the product rather than being emitted as a pollutant.

The application of carpet as a fuel for cement kilns is potentially attractive, but there are potential environmental and operational issues that need to be addressed in order to promote this as a viable practice for industry. For example, some of the elemental components of carpeting (e.g., nitrogen) could potentially result in the formation of pollutants of concern (e.g., nitrogen oxides [NO_x]). In response to this data gap, in a separate study, the US EPA performed testing on a pilot-scale rotary kiln, which showed only a slight increase in NO_x emissions from co-firing carpeting with natural gas (6). This study also showed only minor increases in organic pollutants and no measurable emissions of mercury (Hg).

As a result of these promising small-scale tests, the Carpet and Rug Institute (CRI), US Department of Energy (DOE), Georgia Institute of Technology School of Chemical and Biomolecular Engineering, US Environmental Protection Agency (US EPA), Lehigh Cement Company, and the American Society of Mechanical Engineers (ASME) Research Committee on Industrial and Municipal Waste, initiated a collaborative full-scale test program on the feasibility of using cement kilns for the energy recovery of post-consumer carpet. The objective of this program is to conduct a feasibility test to determine the impact of carpet burning on kiln fouling, fuel economy, mechanical/feeding equipment operation, and stack emissions.

A field test and data evaluation made up a portion of this program. The complete program involved:

- Delivery of a pre-shredded sample of carpet to the site to establish steady-state feeding conditions and to scope out initial operational feasibility;
- Delivery and installation of advanced shredding/grinding equipment to the site;

- Acquisition of necessary permissions from the Pennsylvania Department of Environmental Protection (PA DEP) to conduct a trial;
- Delivery of 907 tonnes (1,000 tons) of post-consumer carpet to the site for use during the tests;
- Establishing parameters for operating the shredding/grinding equipment with the feeder to assure sufficient material delivery to the kiln; and
- Perform source sampling during cement kiln operation with and without carpet feed for fuel comparison purposes.
- Perform further operational testing using the remainder of the 907 tonnes (1000 tons) of the carpet (still ongoing).

This paper reports on the results from the emissions testing portion of the project.

EXPERIMENTAL APPROACH

The goal of the source-sampling task was to determine the emission rates and concentrations of the target stack gas constituents from the exhaust stack of Cement Kiln #1 owned by Lehigh Cement in Evansville, Pennsylvania. Kiln #1 (see Fig. 1) is equipped with an auxiliary fuel line that has been used successfully to feed wood chips into the burner end of the kiln. Note that during these tests no tire-derived fuel was being burned. Fig. 2 shows a photograph of the auxiliary fuel line and its location relative to the main fuel line. Post-consumer carpet, from Carpet Cycle LLC, New Jersey, was collected from various locations in the region and sent to a site adjacent to the cement plant. A shredder (Republic Machines 250 HP, 2" single shaft, 15 inch rotor, 6 cutter rows) was also installed at that same site. Trucks transported the shredded carpet, where it was dumped into a hopper that was connected to the auxiliary fuel line. This system was capable of delivering 2.2 tonnes/hr (2.4 tons/hr) of finely shredded carpet to the kiln, providing up to 15% of the total fuel energy requirements. Fig. 3 shows the shredded carpet material as fed to the kiln.

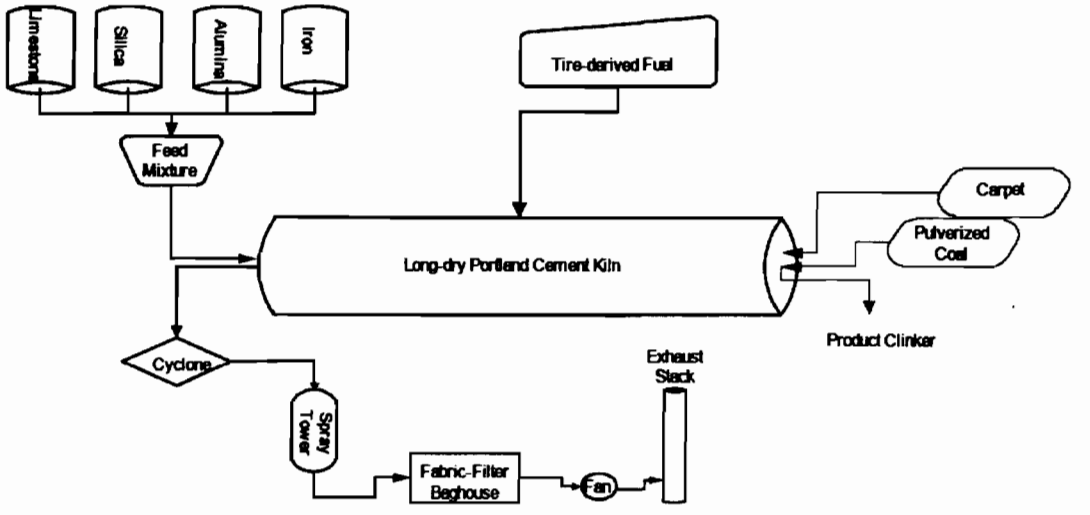

Fig. 1. Lehigh Cement Kiln #1, Evansville, PA.

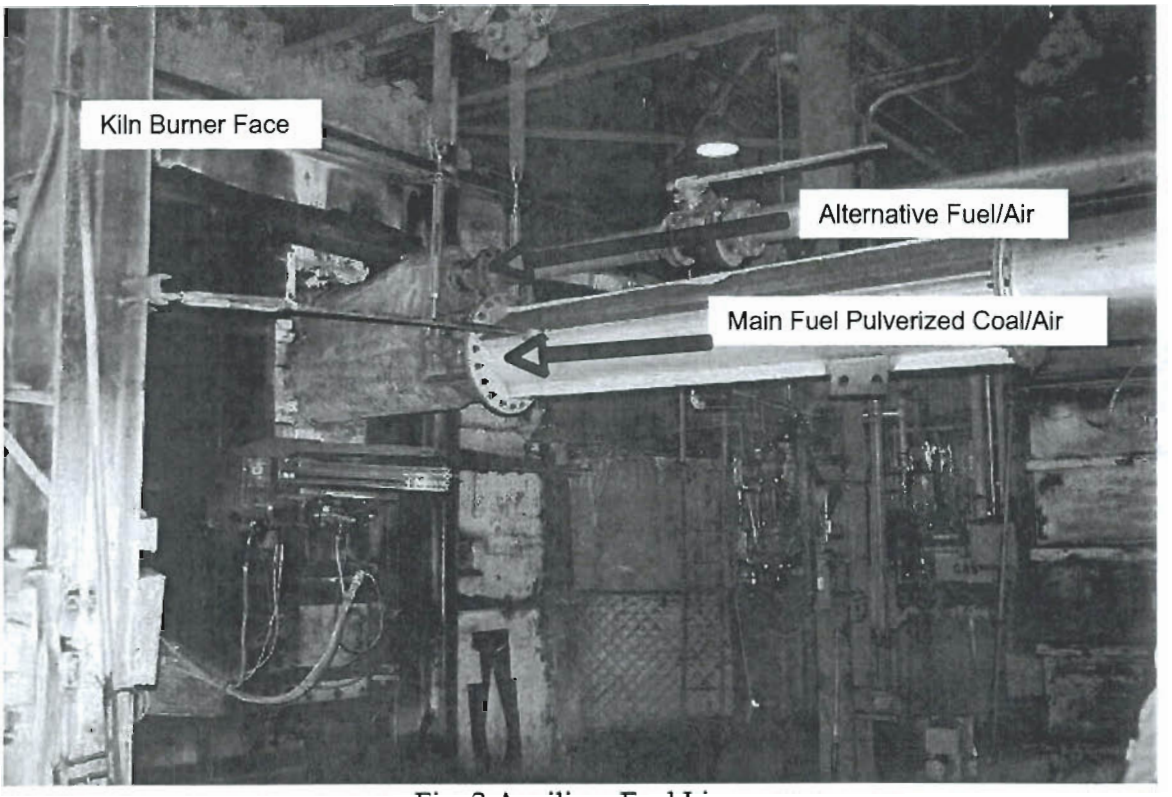

Fig. 2 Auxiliary Fuel Line.

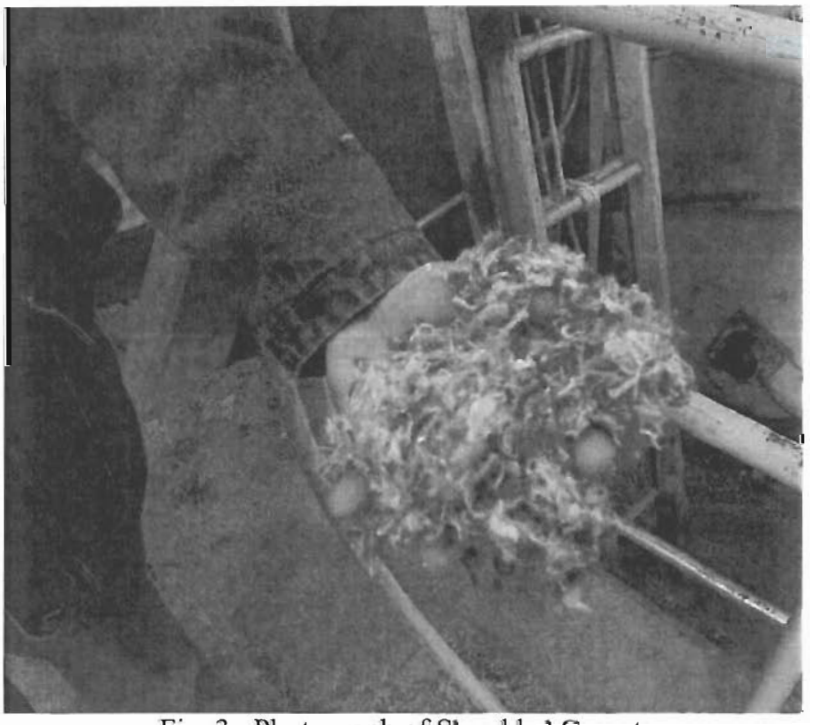

Fig. 3. Photograph of Shredded Carpet.

For the baseline (coal only) test series, the kiln was operating at a clinker production rate of approximately 1727 tonnes/day (1900 tons/day) from 2182 tonnes/hr (2400 tons/hr) of raw material. The stack gas flow rate was approximately 2662 scm/min (94,000 scfm) at a gas temperature of about 204 °C (400°F) while operating on coal. Similar conditions were observed during carpet co-firing operation. The use of stainless steel probes, quartz probe liners, and graphite ferrules during the test program minimized potential problems sampling at this temperature. All operational parameters were monitored and recorded by plant instrumentation.

Prior to detailed sampling, the kiln was operated under a variety of fuel input combinations of carpet and coal over a period of four days. After these four days of scoping tests, two kiln test conditions were evaluated in detail, with two sampling days per test condition. Condition 1 was considered normal baseline operation, with the kiln firing its normal coal fuel at a rate of approximately 9.1 tonnes/hr (10 tons/hr). Condition 2 substituted shredded carpet for 15% of the total kiln fuel energy input. Table I lists the operating conditions for the test matrix.

Table I. Test Matrix.

Condition	**Raw Meal Feed Rate (tonnes/hr)**	**Coal Feed Rate (tonnes/hr)**	**Carpet Feed Rate (tonnes/hr)**	**% Fuel as Carpet**
Condition 1 (Baseline – Coal only)	90.9	9.1	0	0
Condition 2 (Coal/Carpet)	90.9	7.7	2.0	15

Sampling for various combustion-related air pollutants was performed over the duration of the tests. Continuous emission monitors (CEMs) were used for fixed combustion gases during the entire test duration. Extractive samples, using standard sampling/analytical methods were performed at discrete times, based on minimum sample volumes required by PA DEP. The target analytes, sampling/analytical methods, and sample times/volumes are described in Table II.

The sampling location was a series of four evenly spaced 15.2 cm (6 in) test ports located at the 69.5 m (228 ft) level. The stack inner diameter at that location is 304 cm (10 ft). The four test ports were utilized to accommodate either two or three sampling trains simultaneously. Each port was traversed by each train by rotating the sampling trains between the four ports sequentially.

The samples were collected over a period of several days during which the cement kiln was operating under stable and steady conditions. The carpet feed was started and time equal to the solid phase kiln residence time (approximately 3 hrs) was allowed to elapse prior to initiation of extractive sampling methods. Table III shows a timeline of the sample events within the various days. Runs where samples were taking simultaneously are noted; otherwise, duplicate sample trains were taken sequentially.

Table II. Target Analytes and Sampling/Analytical Methods Used.

Target Analyte	Method Used	Sampling Duration
O_2	Paramagnetic CEM	Continuous
CO_2	NDIR CEM	Continuous
CO	NDIR CEM	Continuous
NO_x	Chemiluminescent CEM	Continuous
SO_2	UV CEM	Continuous
RCRA/CAA Metals (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Ag, Tl)	Extractive sample/ICAP (EPA Method 29)	90 min
Halogens (HCl, chlorides, HBr, bromides)	Extractive sample/IC (EPA Method 26A)	90 min
PCDD/F	Extractive sample/HRGC/HRMS (EPA Method 23)	240 min
Total filterable particulate	Extractive sample (EPA Methods 1,2, 4, and 5)	90 min
PM10/PSD	Cyclone/cascade impactor (CARB Method 501)	240 min – 480 min
Condensables	EPA Method 202	240 min – 480 min

Table III. Timeline of sampling events.

Day	Condition	Samples
1 (11-5-04)	2	CEMs, M23 x 3 (2 simultaneous), M501 x1
2 (11-8-04)	2	CEMs, M26 x 3, M29 x 3
3 (11-9-04)	1	CEMs, M23 x 3 (2 simultaneous, 1 bad run)
4 (11-10-04)	1	CEMs, M23 x 1 (repeat of bad run), M501 x 2 (simultaneous)
5 (11-11-04)	1	CEMs, M26 x 3, M29 x 3
6 (11-12-04)	2	CEMs, M501 x 2 (simultaneous)

Oxygen (O_2) was measured using a paramagnetic continuous emission monitor (CEM), carbon dioxide (CO_2) and carbon monoxide (CO) were measured using non-dispersive infrared (NDIR) CEMs, NOx was measured using chemiluminescent CEM, and sulfur oxides (SOx) were measured using ultraviolet (UV) CEM.

Metals emissions were determined by the use of EPA Method 29 (7). A metered flue gas sample was withdrawn from the stack isokinetically through a heated probe and glass fiber filter into an impinger/condenser train. The filter and impinger solutions were digested and analyzed for the target metals by ICAP. Three simultaneous Method 29 trains were operated in the available ports in the stack. This was not precisely compliant with the definition of co-located trains; however, information about the precision of the sampling trains can still be derived from sampling this way.

Halogen emissions were determined by EPA Method 26A (8). Gaseous and particulate pollutants were withdrawn isokinetically from the source through a heated, glass-lined probe and

heated filter into an impinger/condenser train. The impinger solutions were analyzed by ion chromatography (IC) to determine halogen concentration.

PCDD/F emissions were determined by the use of EPA Method 23 (9). A metered flue gas sample was withdrawn from the stack isokinetically through a heated probe and Teflon coated, glass fiber filter onto a condenser/XAD-2 packed resin trap. The filtered, dried gas was measured with a calibrated dry gas meter. The XAD resin trap and filter were extracted and analyzed for PCDDs/Fs by high-resolution gas chromatography/high-resolution mass spectrometry (HRGC/HRMS).

Total filterable particulate matter (PM) sampling was performed according to EPA Method 5. A flue gas sample is withdrawn from the stack isokinetically through a heated probe and pre-weighed, heated, glass fiber filter into an impinger/condenser train. The filtered, dried gas is measured with a calibrated dry gas meter, and the PM captured in the probe and filter are desiccated and weighed. The filters used in the three Method 26A trains were used for the Method 5 total filterable particulate measurement.

PM with an aerodynamic diameter less than 10 μm (PM_{10}) and particle size distributions (PSDs) were measured using Method 501 (10), which utilizes a cyclone with a 10 μm cutoff and an Andersen Cascade Impactor with multiple stages to determine the PSD.

Condensables were measured using EPA Method 202 (11), using the back half of the same trains that were being used for PM_{10}.

RESULTS

Operationally, the substitution of carpet for part of the coal resulted in an overall shorter flame length in the kiln. This is due to the carpet being completely combusted at a shorter axial distance from the burner face. This slightly altered the thermal distribution in the kiln, which caused some concern to the plant for jeopardizing the refractory lining of the kiln (which was nearly due for its annual recasting).

The proximate and ultimate analysis of various types of carpeting as well as a typical coal is shown in Table IV.

In all of the presentation of results, the raw concentrations are shown (i.e., no correction to a fixed O_2 or CO_2 concentration was performed). The results from continuous combustion gas measurements for the two test conditions are shown in Figs. 4-6. Emissions of CO (Fig. 4) were essentially unchanged between the conditions with and without the carpet feed. This suggests that the carpet was being effectively combusted in the burner zone without significantly impacting the emissions of organic pollutants and products of incomplete combustion (PICs). Emissions of NO_x (Fig. 5) were also not impacted either positively or negatively by the substitution of carpet. Although nylon carpeting contains significant amounts of nitrogen, which could form fuel NO_x, the temperatures in the burning zone of the cement kiln are very high (≈1500 °C) and mechanisms of thermal NO_x formation dominate, so it is not unexpected that significantly increasing fuel nitrogen content would have little effect on NO_x emissions.

Although the carpet being fed contained little to no sulfur, SO_2 emissions (Fig. 6) were increased somewhat during the first carpet run possibly due to instability in the process.

Table IV. Ultimate and proximate analysis results for various carpet types tested and a typical medium-volatile bituminous Pennsylvania coal (12). All values are as received.

	polypropylene	nylon 6	nylon 6,6	coal
Carbon (% mass)	56.93	42.25	45.59	81.6
Hydrogen (% mass)	8.47	5.47	6.13	5.0
Nitrogen (% mass)	< 0.05	4.46	4.74	1.4
Sulfur (% mass)	0.07	0.11	0.11	1.0
Ash (% mass)	21.17	25.42	23.96	6.1
Oxygen (% mass, by difference)	13.36	22.28	19.46	4.9
Chlorine (ppm mass)	77	64	52	NA
Moisture (% mass)	0.21	0.85	0.58	2.1
Volatile matter (% mass)	69.11	61.90	65.57	24.4
Ash (% mass)	21.17	25.42	23.96	6.1
Fixed carbon (% mass, by difference)	9.51	11.83	9.89	67.4
Heat of combustion (MJ/kg)	28.10	17.17	18.81	33.26

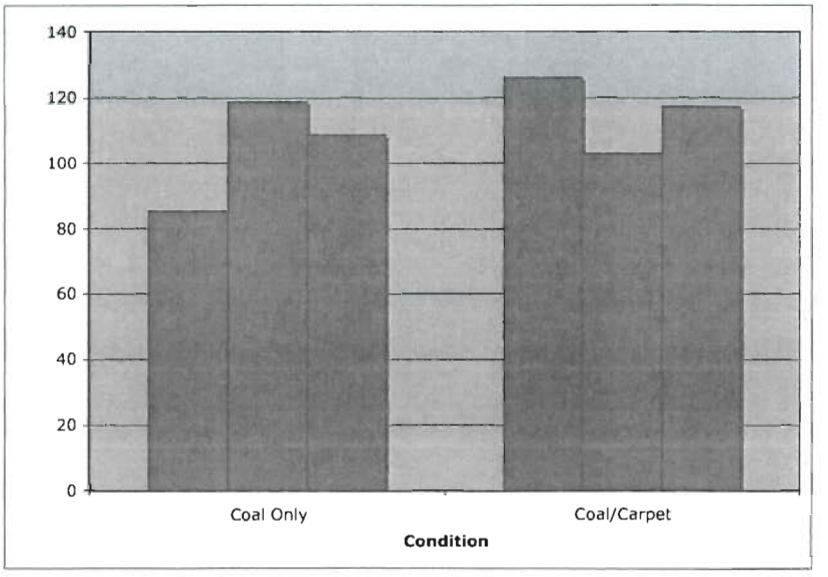

Fig. 4. CO Emissions Results Averaged Over Each Run.

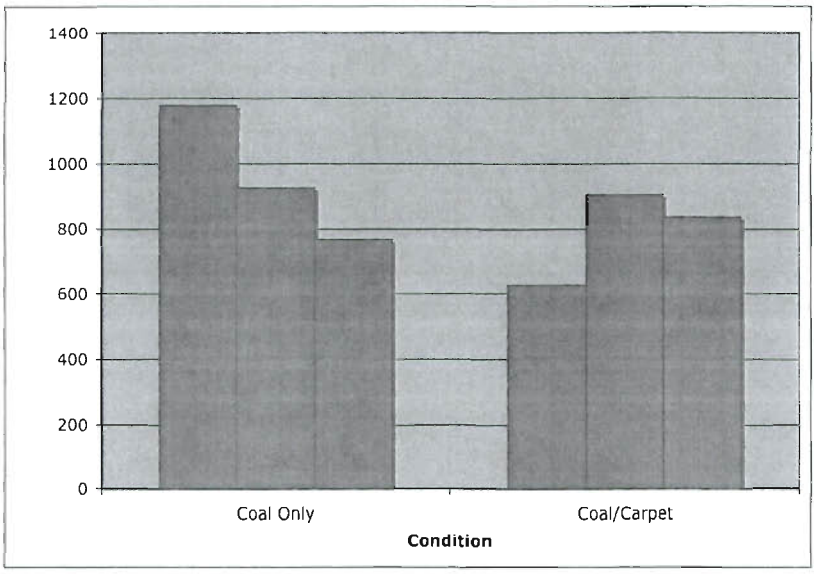

Fig. 5. NO_x Emissions Results Averaged Over Each Run.

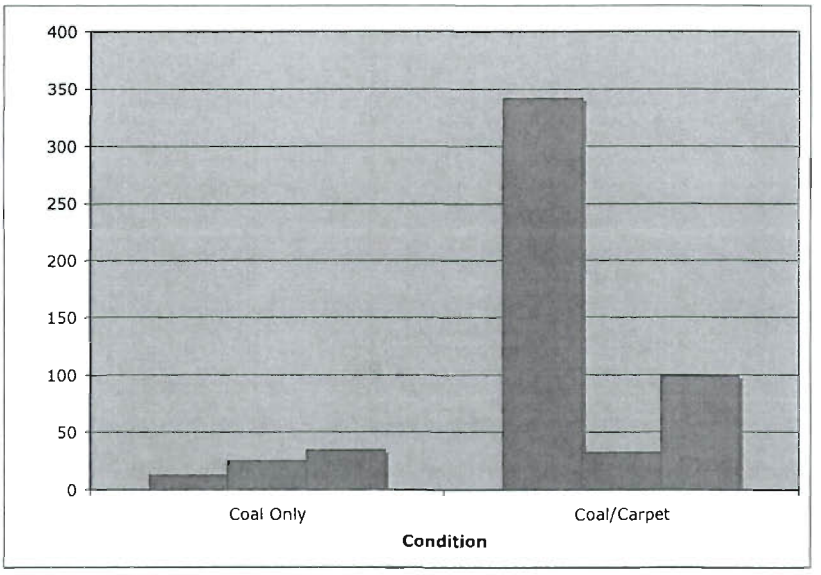

Fig. 6. SO_2 Emissions Results Averaged Over Each Run.

The results of the airborne metals measurements are shown in Fig. 7, as an average of 3 runs (error bars reflect the spread of the measurements). Only the target analytes that were present at levels above the detection limits are shown. Emission levels were quite low, and there appeared to be no discernable effect of the fuel substitution, as the ranges bounded by the error bars clearly overlap between the two conditions. It is estimated that there is approximately 15% variability inherent in the Method 29 measurements – some of the metals emissions measurements are showing higher variability than that. The wide variability that some metals are showing could be due to non-homogeneities in the raw materials.

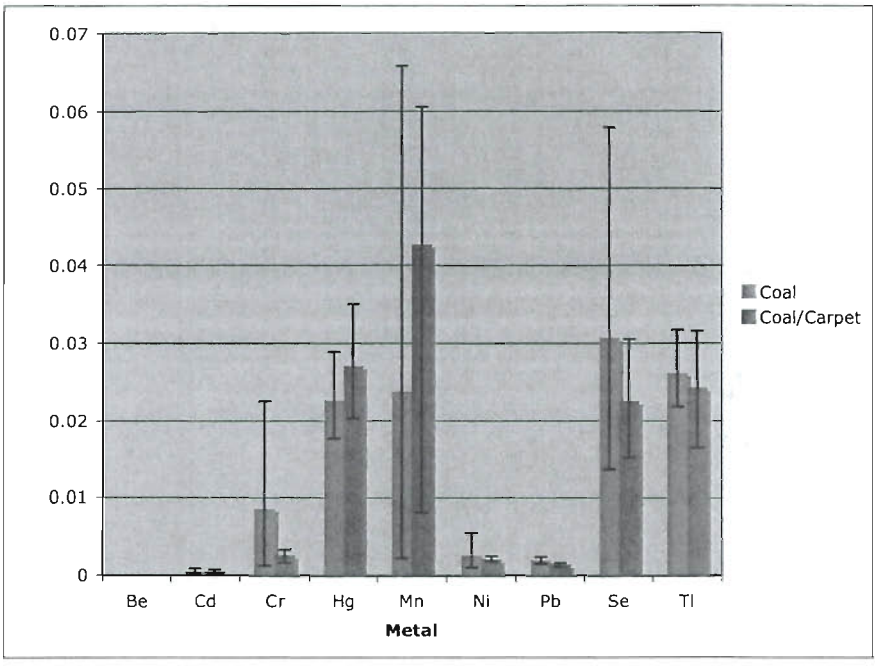

Fig. 7. Metals Results (Averages of 3 Runs).

The results from the halogen measurements are shown in Fig. 8 (as an average of 3 runs). Brominated species were not detected in any of the samples. There appears to be a slight reduction in the HCl and chlorides resulting from the fuel substitution. As shown in Table IV, carpet does have a lower chlorine content than coal, so this is not inconsistent.

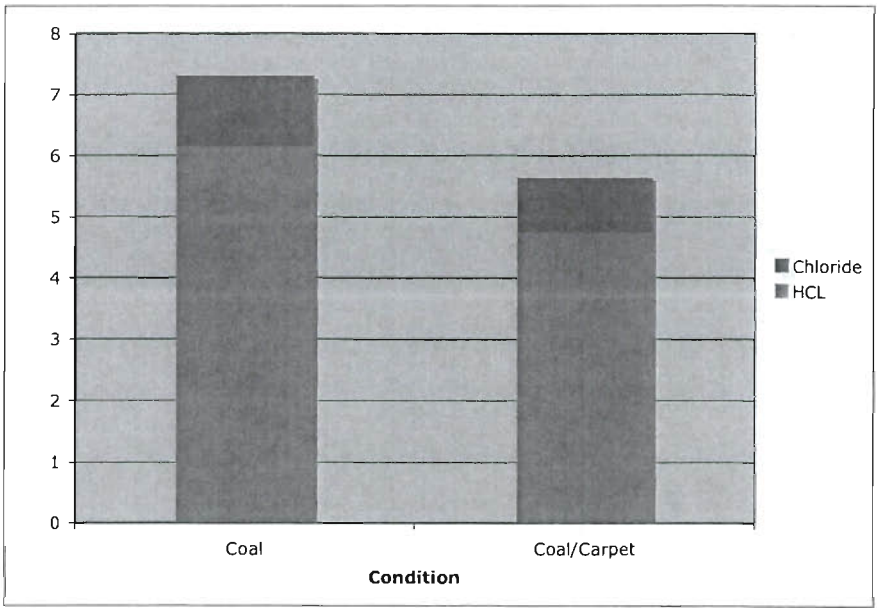

Fig. 8. Halogen Results (Averages of 3 runs).

The results from the total filterable PM measurements are shown in Fig. 9 and PM_{10} results are shown in Fig. 10. Only 2 runs were captured for PM_{10} with coal only, due to extended sampling

times resulting from very low particulate loading. It appears that for these tests, PM_{10} constitutes approximately 50% of the total filterable PM. It appears that the fuel substitution did not measurably affect the emissions of filterable PM or PM_{10}. This is not a surprising observation given that entrained feed material at various stages of calcination is probably the main contributor to the PM in the stack.

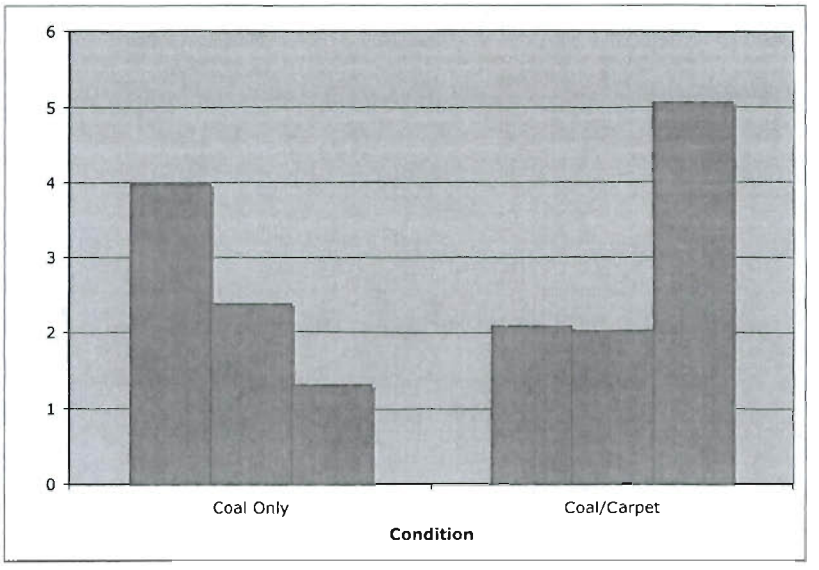

Fig. 9. Total Filterable PM Results.

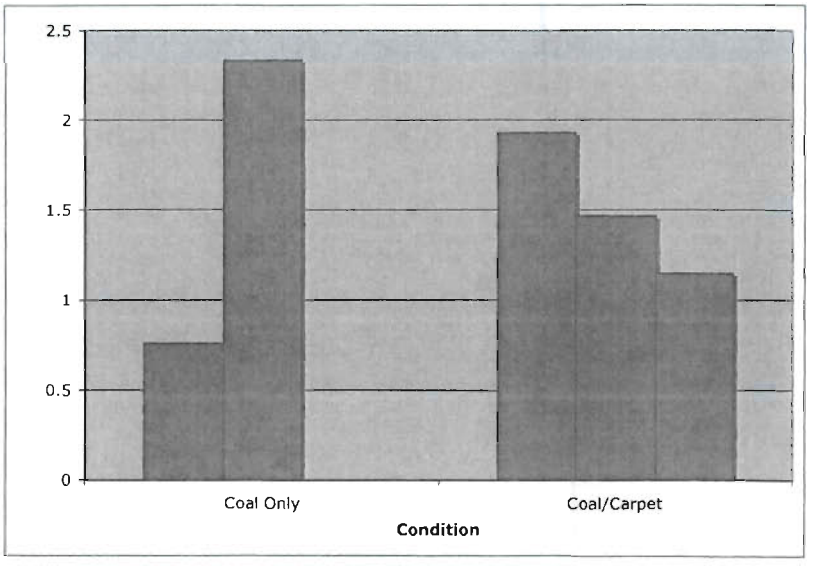

Fig. 10. PM_{10} Results.

The results from the condensable organic measurements are shown in Fig. 11. The results from the condensable inorganic fraction are shown in Fig. 12. Like for the PM_{10}, only two samples were acquired for the coal only runs. It is hard to determine the effect of the fuel substitution on the condensable organic fraction because the first run showed a significant difference from the other two runs. Since a certain amount of the condensable organic fraction is due to organics being driven off the raw material, it is possible that the outlier result in the first run could be due

to something in the raw material that was released into the gas phase. The condensable inorganic fraction, however, showed significantly lower emissions in the samples with the coal/carpet fuel. Since a significant fraction of the condensable inorganic material may be SO_3, this observation is the reverse of that observed in the SO_2 emissions. It is possible that whatever shift in the sulfur-calcium-oxygen-carbon equilibrium that may have occurred in the burning zone resulted in a shift from SO_3 to SO_2 when the carpet was being co-fired with the coal. We are further analyzing the condensable inorganic fraction to verify this hypothesis.

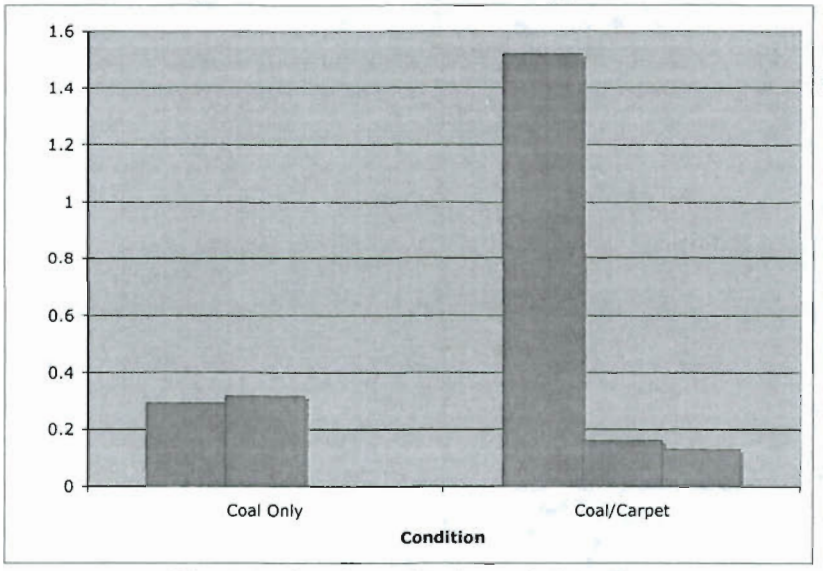

Fig. 11. Condensable Organic Results

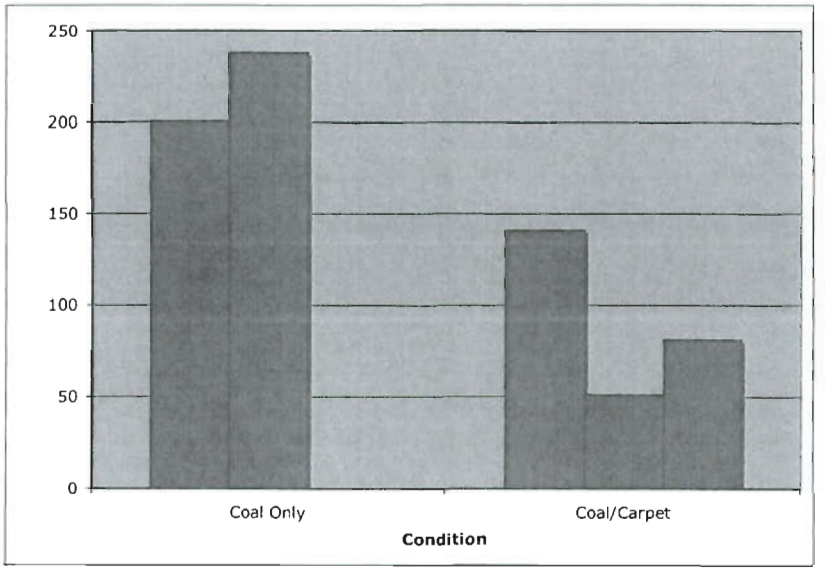

Fig. 12. Condensable Inorganic Results

The results from the total PCDD/F measurements are shown in Fig. 13 and the PCDD/F results converted to International Toxicity Equivalent (I-TEQ) measurements (average of 3 runs) are shown in Fig. 14. Both the total PCDD/F and TEQ emissions were very low. The runs with the carpet co-firing however, showed significantly lower emissions of total PCDD/F and TEQ.

Given that current knowledge of the PCDD/F formation mechanism suggests that the PCDDs/Fs are being formed in the cooler parts of the combustion system, such as in the baghouse, and the fact that there were no indications of neither more nor less effective combustion with the carpet co-firing (as indicated by CO measurements), it suggests that some other gas-phase species indirectly related to the fuel composition may be responsible for this significant difference in emissions. The main differences between the coal only runs, and the coal/carpet runs were seen in the SO_2, halogens, and the inorganic condensable results. Therefore it is likely that one of these three measurements may give an indication of why the PCDD/F emissions were significantly reduced.

The halogens were only slightly lower in the case where carpet was being co-fired with coal. Past work on waste combustion systems (13) showed little to no effect of chlorine species on PCDD/F emissions. It is unlikely that a slight reduction in the chlorine species could result in a significant reduction in PCDD/F emissions for other types of combustion systems. Rather, it is more likely that the change in sulfur species is what resulted in the dramatically lower emissions of PCDD/F. Further examination of the process data to examine this and other potentially important variables (e.g., baghouse temperature) will be performed.

The presence of sulfur has been implicated as an inhibitor of PCDD/F formation rates. Previous research (14) showed that addition of high-sulfur coal to a refuse-derived fuel combustor resulted in significantly lower emissions of PCDD/F. If the reduction in PCDD/F that were seen in these tests is a result of sulfur inhibition of the PCDD/F formation reactions, then it appears that it would be SO_2 and not SO_3 that seems to be the species that inhibits the PCDD/F formation reactions. Further analyses will be performed to check this hypothesis.

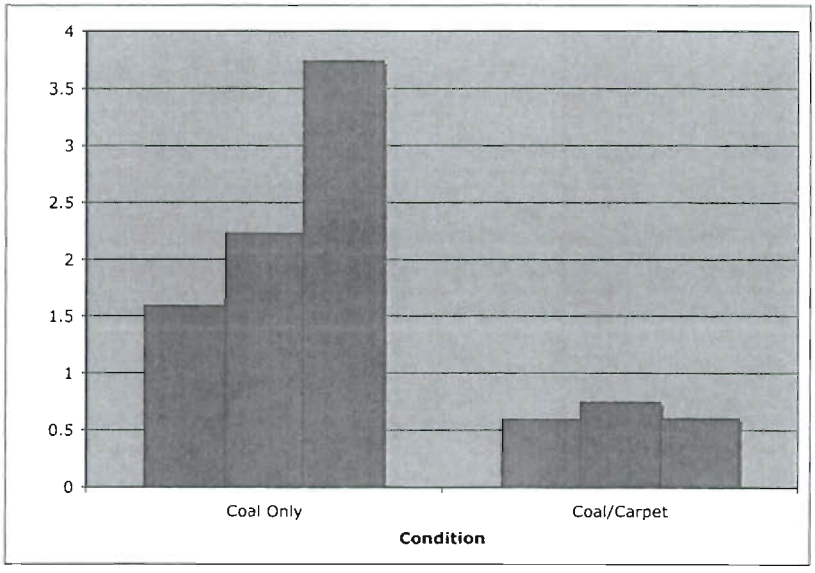

Fig. 13. Total PCDD/F Results.

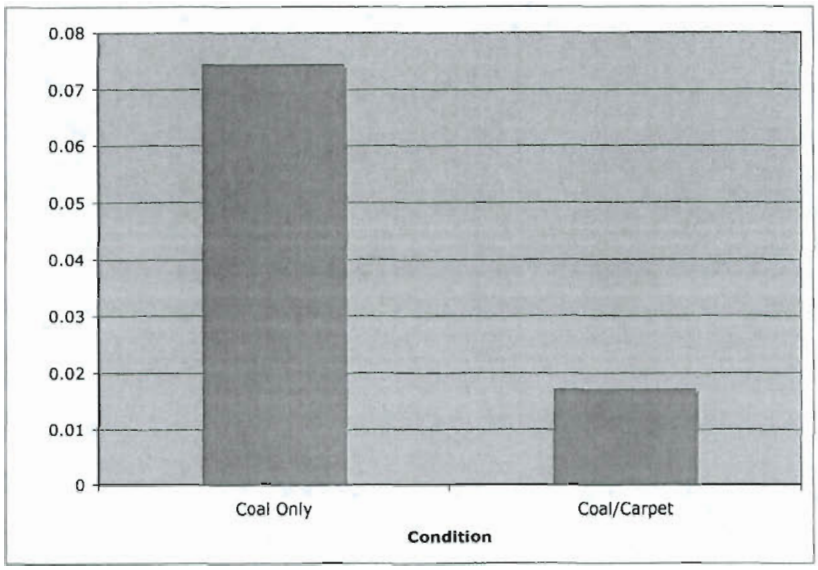

Fig. 14. PCDD/F I-TEQ Results (Averages of 3 Runs).

CONCLUSIONS

A series of emissions tests was performed at a full-scale Portland Cement kiln where a portion of the coal fuel was substituted with shredded carpet, and compared with normal operation on coal only. This paper reports on the results from cement kiln source sampling activities during two operating conditions: normal operation (firing coal at nominal load), and substituting shredded carpet for a 15% of the total fuel value. The pollutants measured include fixed combustion gases, total filterable particulate matter (PM), PM_{10}, particle size distributions, halogens, polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans, and the RCRA and Clean Air Act metals.

The following conclusions were made based on the testing:

- The program successfully demonstrated the process of shredding the carpet, transporting it to the facility, and feeding it into the cement kiln with a replacement of 15% of the coal fuel (on a heating value basis) with carpet.
- The carpet burned out quicker than the coal, resulting in a thermal profile with the higher temperatures slightly shifted closer to the burner face.
- The emissions of CO and NO_x did not appreciably change by substituting the carpet for a portion of the fuel
- The emissions of total filterable PM and PM_{10} did not appreciably change by substituting the carpet for a portion of the fuel.
- The emissions of halogens were slightly lower when the carpet was being co-fired.
- The emissions of SO_2 appear to be slightly higher, although one test showed similar emissions, and the emissions of condensable inorganics (presumably SO_3) were lower when the carpet was being co-fired. It is believed that the slightly different thermal profile in the burning zone resulted in this shift from SO_3 to SO_2. Additional analyses are being performed to investigate this phenomenon, and additional testing for longer periods

to further investigate this phenomenon will be required to make more substantive conclusions.

- The emissions of total PCDD/F and PCDD/F I-TEQs were notably lower when the carpet was being co-fired. It is believed that the increase in SO_2 emissions may be inhibiting formation of PCDD/F. It also suggests that SO_2 and not SO_3 appears to be the species that inhibits PCDD/F formation.

ACKNOWLEDGMENTS

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

TITLE V/STATE OPERATING PERMIT

Issue Date:	September 14, 2009	Effective Date:	July 14, 2010
Revision Date:	July 14, 2010	Expiration Date:	September 30, 2014
Revision Type:	Amendment		

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to operate the air emission source(s) more fully described in this permit. This Facility is subject to all terms and conditions specified in this permit. Nothing in this permit relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each permit condition is set forth in brackets. All terms and conditions in this permit are federally enforceable applicable requirements unless otherwise designated as "State-Only" or "non-applicable" requirements.

TITLE V Permit No: 06-05002

Federal Tax Id - Plant Code: 23-0797050-1

Owner Information

Name: LEHIGH CEMENT CO LLC
Mailing Address: 537 EVANSVILLE RD
FLEETWOOD, PA 19522-8541

Plant Information

Plant: LEHIGH CEMENT CO LLC/EVANSVILLE CEMENT PLT & QUARRY
Location: 06 Berks County 06942 Maidencreek Township
SIC Code: 3241 Manufacturing - Cement, Hydraulic

Responsible Official

Name: CHRISTOPH STREICHER
Title: VP
Phone: (610) 926 - 1024

Permit Contact Person

Name: CHARLES BORTZ
Title: ENV COOR
Phone: (610) 926 - 1024

[Signature] _____
WILLIAM R. WEAVER, SOUTHCENTRAL REGION AIR PROGRAM MANAGER

SECTION A. Table of Contents

Note: These same sub-sections are repeated for each source!

Section E. Source Group Restrictions

E-I: Restrictions
E-II: Testing Requirements
E-III: Monitoring Requirements
E-IV: Recordkeeping Requirements
E-V: Reporting Requirements
E-VI: Work Practice Standards
E-VII: Additional Requirements

Section F. Alternative Operating Scenario(s)

F-I: Restrictions
F-II: Testing Requirements
F-III: Monitoring Requirements
F-IV: Recordkeeping Requirements
F-V: Reporting Requirements
F-VI: Work Practice Standards
F-VII: Additional Requirements

Section G. Emission Restriction Summary

Section H. Miscellaneous

SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput		Fuel/Material
184	SOLID FUELS HEATER- LCC Z-10	2.000	MMBTU/HR	
440	WASH HOUSE BOILER	2.700	MMBTU/HR	
		19.700	Gal/HR	#2 FUEL OIL
		2,700.000	MCF/HR	NATURAL GAS
109	RAW GRIND #1 & HEATER	73.000	Gal/HR	#2 FUEL OIL
		150.000	Tons/HR	KILN FEED
		9,910.000	CF/HR	NATURAL GAS
		70.000	Gal/HR	WDLF
110	RAW GRIND #2 & HEATER	73.000	Gal/HR	#2 FUEL OIL
		100.000	Tons/HR	KILN FEED
		9,910.000	CF/HR	NATURAL GAS
		70.000	Gal/HR	WDLF
112	RAW GRIND #3 & HEATER	133.000	Gal/HR	#2 FUEL OIL
		250.000	Tons/HR	KILN FEED
		18,050.000	CF/HR	NATURAL GAS
		125.000	Gal/HR	WDLF
121	PORTLAND CEMENT KILN #1	90.000	Tons/HR	CEMENT CLINKER
		15.000	Tons/HR	BITUMIOUS COAL & COK
		600.000	Gal/HR	#2 FUEL OIL
		342,850.000	CF/HR	NATURAL GAS
		5.750	Tons/HR	WDSF (TIRES)
		600.000	Gal/HR	WDLF
		3.000	Tons/HR	WDSF (WASTE WOOD)
122	PORTLAND CEMENT KILN #2	90.000	Tons/HR	CEMENT CLINKER
		15.000	Tons/HR	BITUMINOUS COAL & CC
		600.000	Gal/HR	#2 FUEL OIL
		342,850.000	CF/HR	NATURAL GAS
		5.750	Tons/HR	WDSF (TIRES)
		600.000	Gal/HR	WDLF
		3.000	Tons/HR	WDSF (WASTE WOOD)
125	CLINKER COOLER #1	90.000	Tons/HR	CEMENT CLINKERS
126	CLINKER COOLER #2	90.000	Tons/HR	CEMENT CLINKERS
159	FINISH GRIND #1 MILL	100.000	Tons/HR	CEMENT CLINKER
160	FINISH GRIND #3 MILL	140.000	Tons/HR	CEMENT CLINKER
162	FINISH GRIND #2 MILL	140.000	Tons/HR	CEMENT CLINKER
176	FIRE PUMP (EMERGENCY)	75.000	Gal/HR	DIESEL
177	RAW MATERIAL DRYER (SLAG)	120.000	Tons/HR	RAW MATERIAL
		365.000	Gal/HR	#2 FUEL OIL
		46,952.000	CF/HR	NATURAL GAS
179	PLANT ROADWAYS			
180	RAW MATERIAL (SLAG/GYPSUM) TRANSFER			
181	SYNTHETIC GYPSUM SYSTEM			

SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput		Fuel/Material
182	COAL HANDLING SYSTEM			
183	TIRE HANDLING SYSTEM			
200	RAW MATERIAL HANDLING	1,200.000	Tons/HR	RAW MATERIAL
		100.000	CF/HR	NATURAL GAS
		50.000	Gal/HR	#2 FUEL OIL
210	KILN FEED	1,200.000	Tons/HR	KILN FEED
220	CLINKER HANDLING & STORAGE	380.000	Tons/HR	CLINKER & OTHERS
230	CEMENT STORAGE	990.000	Tons/HR	CEMENT MATERIALS
240	BULK LOADING	1,600.000	Tons/HR	CEMENT
250	CEMENT PACKAGING PLANT	550.000	Tons/HR	CEMENT
308	KILN LIME BIN #1			
309	KILN LIME BIN #2			
420	AUX KILN DRIVE	5.850	Gal/HR	#2 FUEL OIL
		855.000	CF/HR	NATURAL GAS
479	MISC COLD CLEANERS			
C03	BAGHOUSE LIMESTONE CRUSHING & SCREENING			
C05	FABRIC COLLECTOR: ROCK SILO WEST			
C06	FABRIC COLLECTOR: ROCK SILO EAST			
C07	FABRIC COLLECTOR: RAW MILL #1 & 2, BELT 1			
C08	FABRIC COLLECTOR: RAW MILL #3 BELT 1			
C09	FABRIC COLLECTOR: RAW GRIND #1			
C10	FABRIC COLLECTOR: RAW GRIND # 2			
C11	FABRIC COLLECTOR: RAW GRIND #3A			
C12	FABRIC COLLECTOR: RAW GRIND #3B			
C121	CYCLONE/PREHEATER: KILN #1			
C122	CYCLONE/PREHEATER: KILN #2			
C123	SPRAY TOWER: KILN #1			
C124	SPRAY TOWER: KILN #2			
C125	FABRIC COLLECTOR: KILN #1			
C126	FABRIC COLLECTOR: KILN #2			
C127	MID-KILN AIR: NO. 2 KILN			
C128	MID-KILN AIR: NO.1 KILN			
C129	LIME INJECTION SYSTEM: KILN #1			
C13	FABRIC COLLECTOR: KILN FD BLEND #1			
C130	LIME INJECTON SYSTEM: KILN #2			
C131	FABRIC COLLECTOR: KILN LIME BINS			
C14	FABRIC COLLECTOR: KILN FD BLEND #2			
C15	FABRIC COLLECTOR: KILN FD SILOS #1&3			
C17	FABRIC COLLECTOR: KILN FD PUMPS 1 THRU 3			
C180	FABRIC COLLECTOR: RAW MATERIAL TRANSFER			

SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput	Fuel/Material
C19	FABRIC COLLECTOR: KILN FD CONVEYING		
C20	FABRIC COLLECTOR: KILN FD CONVEYING		
C25	FABRIC COLLECTOR: CLINKER COOLER #1		
C26	FABRIC COLLECTOR: CLINKER COOLER #2		
C30	FABRIC COLLECTOR: CLINKER HDLG DC4		
C301	FABRIC COLLECTOR: APRON CONVEYORS		
C302	FABRIC COLLECTOR: APRON & SILOS		
C303	FABRIC COLLECTOR: SILO DISTRIBUTION		
C304	FABRIC COLLECTOR: CH B FROM BULK STORAGE		
C305	FABRIC COLLECTOR: ADDITIVE DISTRIBUTION		
C30A	FABRIC COLLECTOR: CH FROM BULK STORE A		
C31	FABRIC COLLECTOR: BULK LDNG SCALE 1		
C32	FABRIC COLLECTOR: BULK LDNG SCALE 2		
C40	FABRIC COLLECTOR: CLINKER HDLGSILO WDG10		
C41	FABRIC COLLECTOR: FINISH GRIND MILL #1		
C42	FABRIC COLLECTOR: FINISH GRIND MILL #3		
C44A	FABRIC COLLECTOR: FINISH GRIND MILL #2		
C44B	FABRIC COLLECTOR: FINISH MILL #2 SEPARATOR		
C45	FABRIC COLLECTOR: CEMENT SILOS 1-6		
C46	FABRIC COLLECTOR: CEMENT SILOS 14-21		
C47	FABRIC COLLECTOR: CEMENT SILOS 22-32		
C48	FABRIC COLLECTOR: CEMENT SILOS 33-43		
C50	FABRIC COLLECTOR: CLINKER HDLG DC8		
C50A	FABRIC COLLECTOR: CH TO BULK STORAGE		
C51	FABRIC COLLECTOR: BULK LDNG SCALE 3		
C52	FABRIC COLLECTOR: BULK LDNG SCALE 4		
C54	FABRIC COLLECTOR: CLINKER HDLGSILO WDG10A		
C55	FABRIC COLLECTOR: CEMENT PKG SYSTEM C		
C56	FABRIC COLLECTOR: CEMENT PKG SYSTEM A		
C57	FABRIC COLLECTOR: CEMENT PKG SYSTEM B		
C58	FABRIC COLLECTOR: SLAG DRYER		
FML01	COAL PILE		
FML02	DIESEL TANKS		
FML03	# 2 OIL/WDLF		
FML04	NATURAL GAS PIPELINE		
FML05	WDSF (TIRES)		
FML06	WASTE WOOD		
S03	STACK: STONE CRUSH & SCREEN		
S05	STACK: ROCK SILO WEST		
S06	STACK: ROCK SILO EAST		

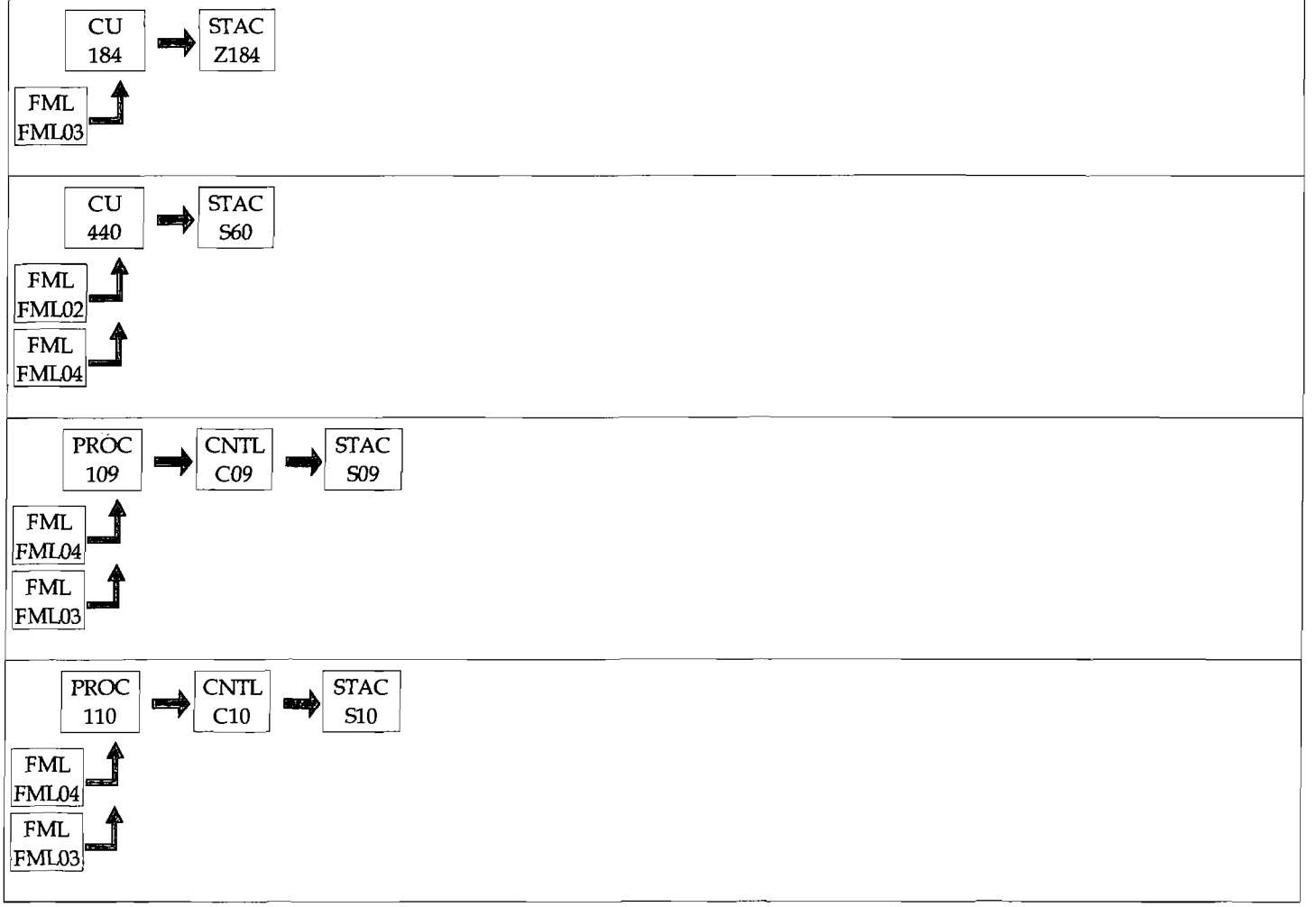
SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput	Fuel/Material
S07	STACK: RAW MILL BELTS 1,2		
S08	STACK: RAW MILL 3 BELT 1		
S09	STACK: RAW GRIND #1		
S10	STACK: RAW GRIND #2		
S11	STACK: RAW GRIND #3A		
S12	STACK: RAW GRIND #3B		
S125	STACK: KILN #1		
S126	STACK: KILN #2		
S13	STACK: KILN FD BLEND #1		
S14	STACK: KILN FD BLEND #2		
S15	STACK:KILN FEED SILOS 1,3		
S17	STACK: KILN PUMP 1,2,3		
S180	STACK: RAW MATERIAL TRANSFER		
S19	STACK: KILN FD CONVEYING		
S20	STACK: KILN FD CONVEYING		
S25	STACK: CLINKER COOLER #1		
S26	STACK: CLINKER COOLER #2		
S301	STACK: APRON CONVEYORS		
S302	STACK: APRON & SILO		
S303	STACK: SILO DISTRIBUTION		
S304	STACK: CH B FROM BULK STORAGE		
S305	STACK: ADDITIVE DISTRIBUTION		
S30A	STACK: CH FROM BULK STORE A		
S31	STACK: BULK LDNG SCALE 1		
S32	STACK: BULK LDNG SCALE 2		
S40	STACK: CLINKER HDLG SILO G10		
S41	STACK: FINISH GRIND MILL #1		
S42	STACK: FINISH GRIND MILL #3		
S44A	STACK: FINISH GRIND MILL #2		
S44B	STACK: FINISH GRIND #2 SEPARATOR		
S45	STACK: CEMENT SILOS 1-6		
S46	STACK: CEMENT SILOS 14-21		
S47	STACK: CEMENT SILOS 22-32		
S48	STACK: CEMENT SILOS 33-43		
S50A	STACK: CH TO BULK STORAGE		
S51	STACK: BULK LDNG SCALE 3		
S52	STACK: BULK LDNG SCALE 4		
S54	STACK: CLINKER HDLG SILO WD G10A		
S55	STACK: CEMENT PKG SYSTEM C		
S56	STACK: CEMENT PKG SYSTEM A		
S57	STACK: CEMENT PKG SYSTEM B		

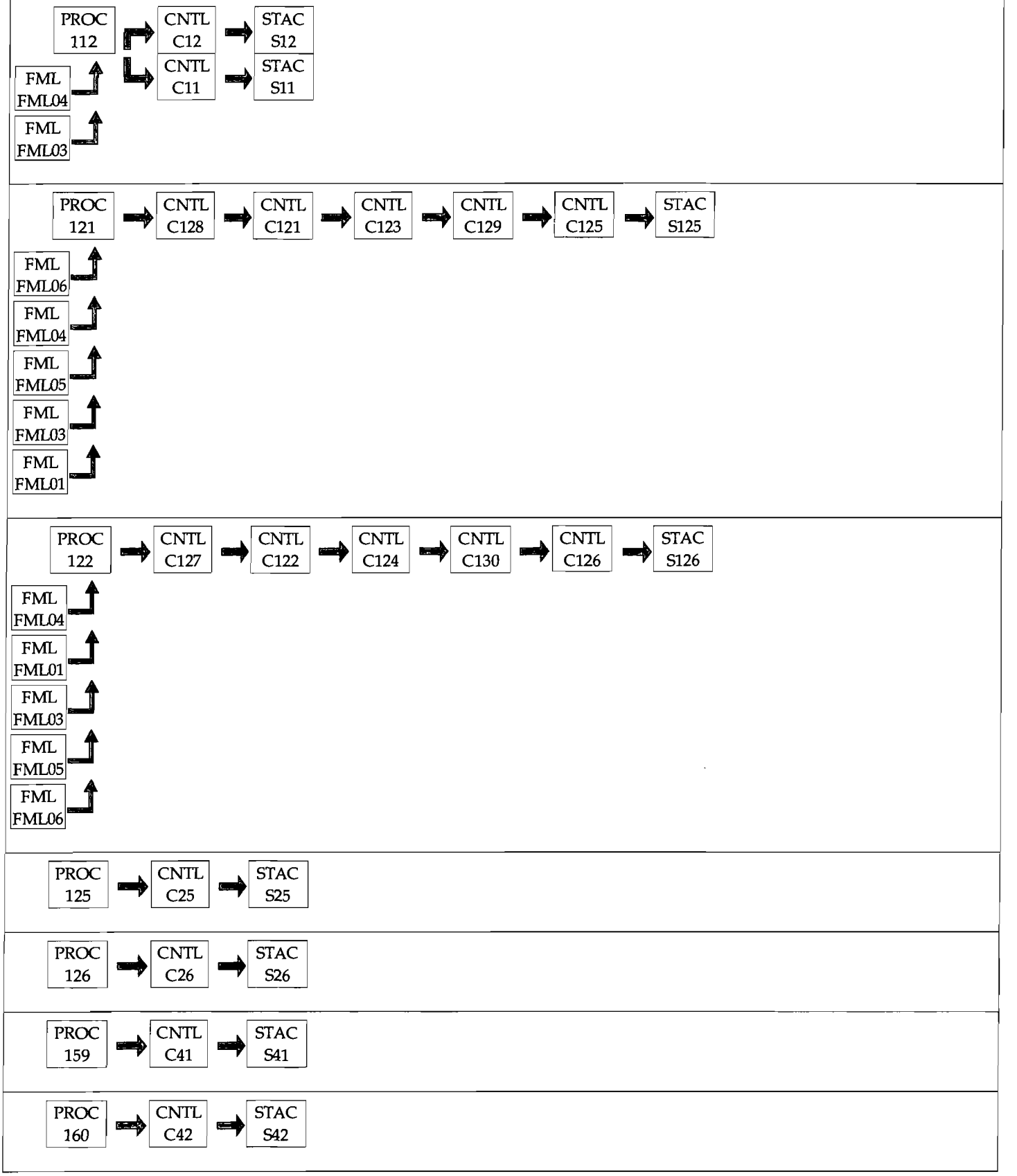
SECTION A. Site Inventory List

Source ID	Source Name	Capacity/Throughput	Fuel/Material
S58	STACK: SLAG DRYER		
S60	STACK: WASH HOUSE BOILER		
S61	STACK: FIRE PUMP		
S62	STACK: AUX. KILN DR.		
S63	STACK: ROCK SILO HTR		
Z01	FUGITIVE: ROADWAYS		
Z02	FUGITIVE: OUTSIDE CLKR HDLG & STRG		
Z177	FUGITIVE: RAW MATERIAL DRYER		
Z180	FUGITIVE: RAW MATERIAL TRANSFER		
Z181	FUGITIVE: SYNTHETIC GYPSUM SYSTEM		
Z182	FUGITIVE: COAL HANDLING SYSTEM		
Z183	FUGITIVE: TIRE HANDLING SYSTEM		
Z184	SOLID FUELS HEATING- (Z-10)		
Z200	FUGITIVE: RAW MATERIAL HOLDING		
Z479	FUGITIVE: MISC COLD CLEANERS		

PERMIT MAPS



PERMIT MAPS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CNTL C129
CNTL C125
STAC S125
FML FML06
FML FML04
FML FML05
FML FML03
FML FML01
PROC 122
CNTL C127
CNTL C122
CNTL C124
CNTL C130
CNTL C126
STAC S126
FML FML04
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FML FML03
FML FML05
FML FML06
PROC 125
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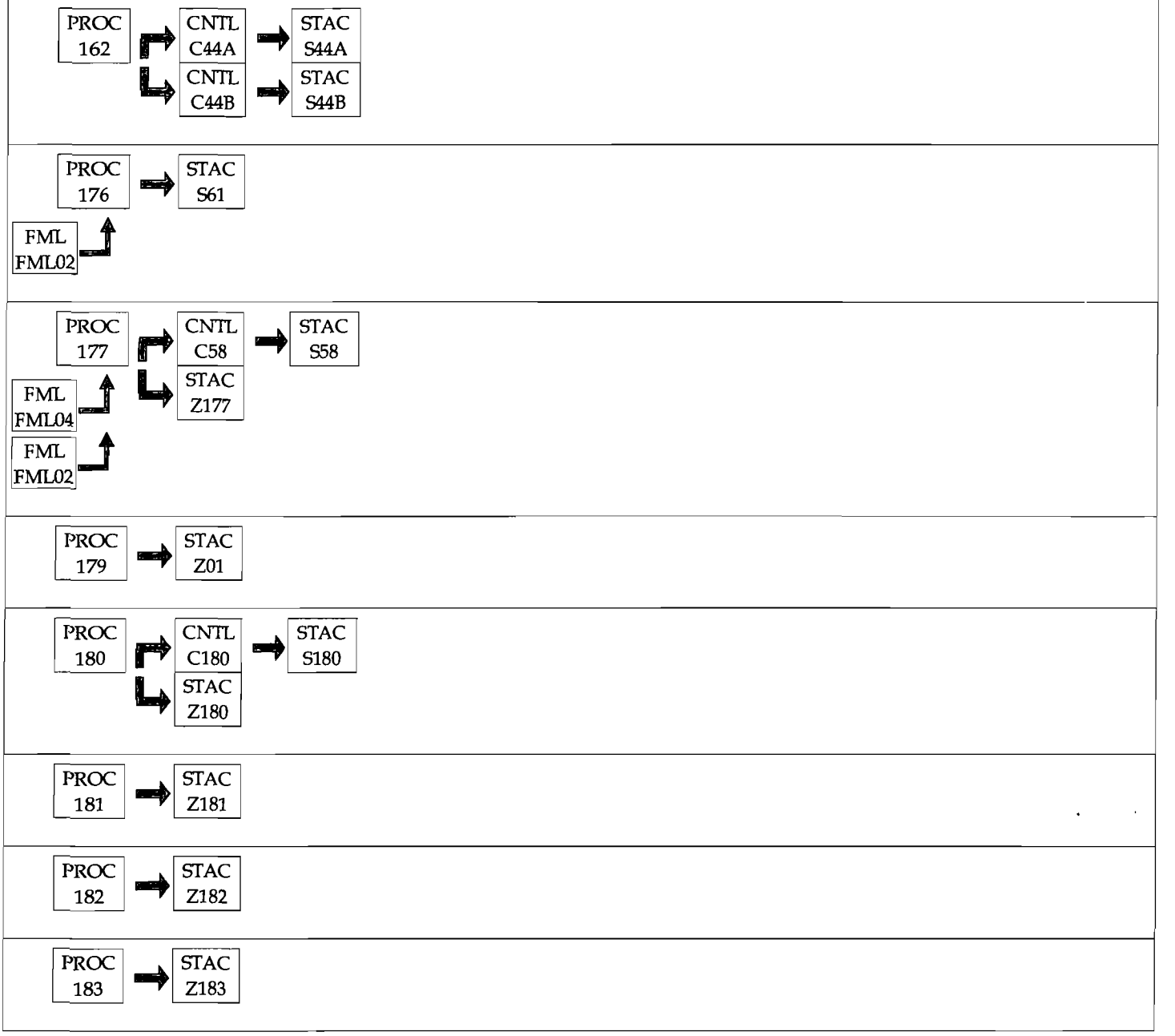
PERMIT MAPS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PROC 179
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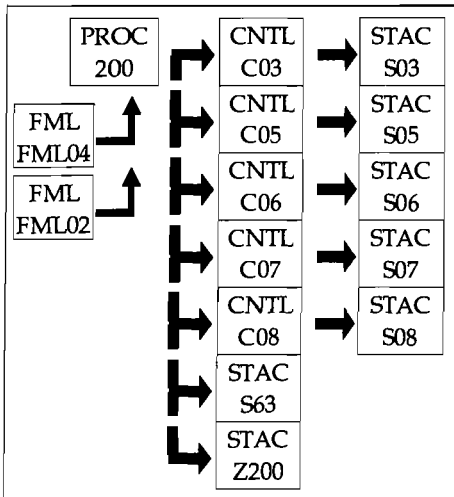
PROC 182
STAC Z182
PROC 183
STAC Z183

PERMIT MAPS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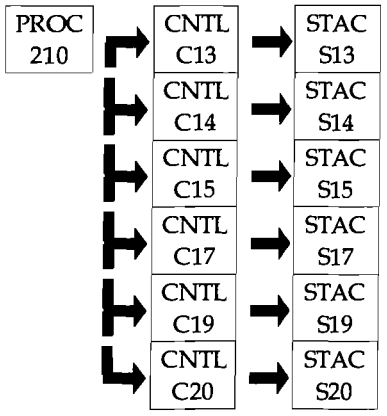
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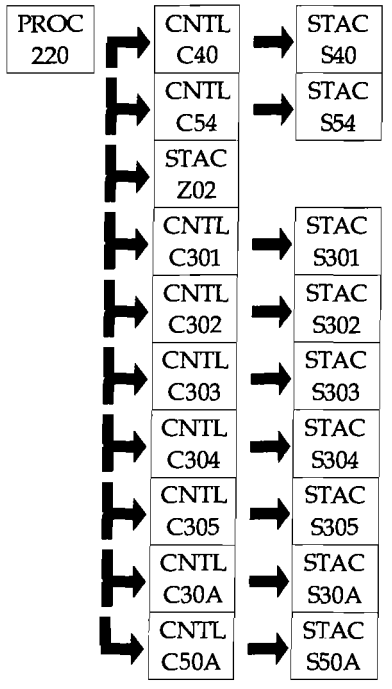
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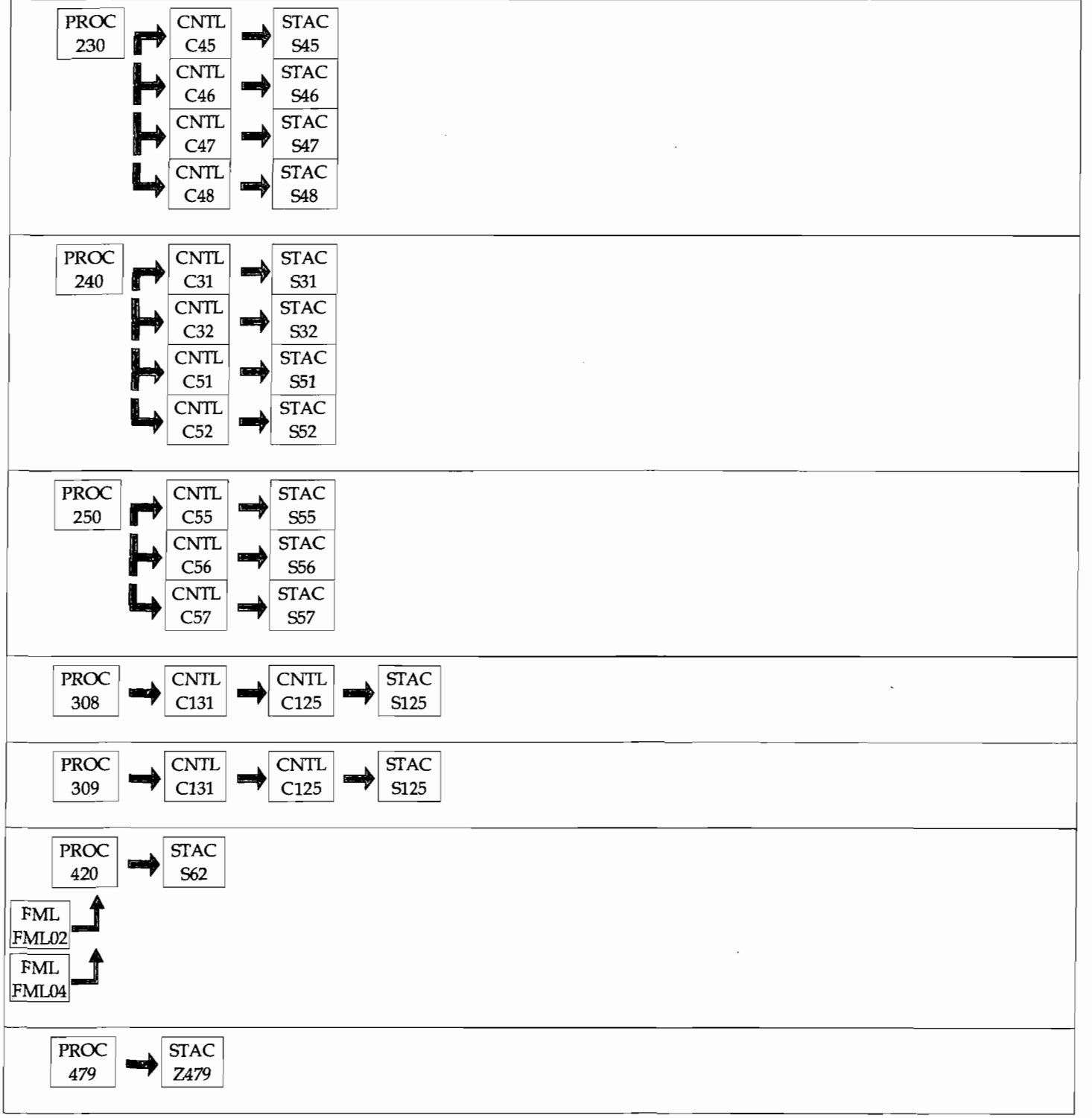
PERMIT MAPS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PROC 250
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STAC S55
CNTL C56
STAC S56
CNTL C57
STAC S57
PROC 308
CNTL C131
CNTL C125
STAC S125
PROC 309
CNTL C131
CNTL C125
STAC S125
PROC 420
STAC S62
FML FML02
FML FML04
PROC 479
STAC Z479

SECTION B. General Title V Requirements

#001 [25 Pa. Code § 121.1]

Definitions

Words and terms that are not otherwise defined in this permit shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and 25 Pa. Code § 121.1.

#002 [25 Pa. Code § 127.512(c)(4)]

Property Rights

This permit does not convey property rights of any sort, or any exclusive privileges.

#003 [25 Pa. Code § 127.446(a) and (c)]

Permit Expiration

This operating permit is issued for a fixed term of five (5) years and shall expire on the date specified on Page 1 of this permit. The terms and conditions of the expired permit shall automatically continue pending issuance of a new Title V permit, provided the permittee has submitted a timely and complete application and paid applicable fees required under 25 Pa. Code Chapter 127, Subchapter I and the Department is unable, through no fault of the permittee, to issue or deny a new permit before the expiration of the previous permit. An application is complete if it contains sufficient information to begin processing the application, has the applicable sections completed and has been signed by a responsible official.

#004 [25 Pa. Code §§ 127.412, 127.413, 127.414, 127.446(e) & 127.503]

Permit Renewal

(a) An application for the renewal of the Title V permit shall be submitted to the Department at least six (6) months, and not more than 18 months, before the expiration date of this permit. The renewal application is timely if a complete application is submitted to the Department's Regional Air Manager within the timeframe specified in this permit condition.

(b) The application for permit renewal shall include the current permit number, the appropriate permit renewal fee, a description of any permit revisions and off-permit changes that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term.

(c) The renewal application shall also include submission of proof that the local municipality and county, in which the facility is located, have been notified in accordance with 25 Pa. Code § 127.413. The application for renewal of the Title V permit shall also include submission of compliance review forms which have been used by the permittee to update information submitted in accordance with either 25 Pa. Code § 127.412(b) or § 127.412(j).

(d) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information during the permit renewal process. The permittee shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete renewal application was submitted but prior to release of a draft permit.

#005 [25 Pa. Code §§ 127.450(a)(4) & 127.464(a)]

Transfer of Ownership or Operational Control

(a) In accordance with 25 Pa. Code § 127.450(a)(4), a change in ownership or operational control of the source shall be treated as an administrative amendment if:

(1) The Department determines that no other change in the permit is necessary;

(2) A written agreement has been submitted to the Department identifying the specific date of the transfer of permit responsibility, coverage and liability between the current and the new permittee; and,

SECTION B. General Title V Requirements

(3) A compliance review form has been submitted to the Department and the permit transfer has been approved by the Department.

(b) In accordance with 25 Pa. Code § 127.464(a), this permit may not be transferred to another person except in cases of transfer-of-ownership which are documented and approved to the satisfaction of the Department.

#006 [25 Pa. Code § 127.513, 35 P.S. § 4008 and § 114 of the CAA]

Inspection and Entry

(a) Upon presentation of credentials and other documents as may be required by law for inspection and entry purposes, the permittee shall allow the Department of Environmental Protection or authorized representatives of the Department to perform the following:

(1) Enter at reasonable times upon the permittee's premises where a Title V source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit;

(2) Have access to and copy or remove, at reasonable times, records that are kept under the conditions of this permit;

(3) Inspect at reasonable times, facilities, equipment including monitoring and air pollution control equipment, practices, or operations regulated or required under this permit;

(4) Sample or monitor, at reasonable times, substances or parameters, for the purpose of assuring compliance with the permit or applicable requirements as authorized by the Clean Air Act, the Air Pollution Control Act, or the regulations promulgated under the Acts.

(b) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act.

(c) Nothing in this permit condition shall limit the ability of the EPA to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

#007 [25 Pa. Code §§ 127.25, 127.444, & 127.512(c)(1)]

Compliance Requirements

(a) The permittee shall comply with the conditions of this permit. Noncompliance with this permit constitutes a violation of the Clean Air Act and the Air Pollution Control Act and is grounds for one (1) or more of the following:

(1) Enforcement action

(2) Permit termination, revocation and reissuance or modification

(3) Denial of a permit renewal application

(b) A person may not cause or permit the operation of a source, which is subject to 25 Pa. Code Article III, unless the source(s) and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the applications and the conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to 25 Pa. Code Chapter 127 in a manner inconsistent with good operating practices.

(c) For purposes of Sub-condition (b) of this permit condition, the specifications in applications for plan approvals and operating permits are the physical configurations and engineering design details which the Department determines are essential for the permittee's compliance with the applicable requirements in this Title V permit. Nothing in this sub-condition shall be construed to create an independent affirmative duty upon the permittee to obtain a predetermination from the Department for physical configuration or engineering design detail changes made by the permittee.

SECTION B. General Title V Requirements

#008 [25 Pa. Code § 127.512(c)(2)]

Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

#009 [25 Pa. Code §§ 127.411(d) & 127.512(c)(5)]

Duty to Provide Information

(a) The permittee shall furnish to the Department, within a reasonable time, information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.

(b) Upon request, the permittee shall also furnish to the Department copies of records that the permittee is required to keep by this permit, or for information claimed to be confidential, the permittee may furnish such records directly to the Administrator of EPA along with a claim of confidentiality.

#010 [25 Pa. Code §§ 127.463, 127.512(c)(3) & 127.542]

Reopening and Revising the Title V Permit for Cause

(a) This Title V permit may be modified, revoked, reopened and reissued or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay a permit condition.

(b) This permit may be reopened, revised and reissued prior to expiration of the permit under one or more of the following circumstances:

(1) Additional applicable requirements under the Clean Air Act or the Air Pollution Control Act become applicable to a Title V facility with a remaining permit term of three (3) or more years prior to the expiration date of this permit. The Department will revise the permit as expeditiously as practicable but not later than 18 months after promulgation of the applicable standards or regulations. No such revision is required if the effective date of the requirement is later than the expiration date of this permit, unless the original permit or its terms and conditions has been extended.

(2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator of EPA, excess emissions offset plans for an affected source shall be incorporated into the permit.

(3) The Department or the EPA determines that this permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

(4) The Department or the Administrator of EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(c) Proceedings to revise this permit shall follow the same procedures which apply to initial permit issuance and shall affect only those parts of this permit for which cause to revise exists. The revision shall be made as expeditiously as practicable.

(d) Regardless of whether a revision is made in accordance with (b)(1) above, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations.

#011 [25 Pa. Code § 127.543]

Reopening a Title V Permit for Cause by EPA

As required by the Clean Air Act and regulations adopted thereunder, this permit may be modified, reopened and reissued, revoked or terminated for cause by EPA in accordance with procedures specified in 25 Pa. Code § 127.543.

SECTION B. General Title V Requirements

#012 [25 Pa. Code § 127.541]

Significant Operating Permit Modifications

When permit modifications during the term of this permit do not qualify as minor permit modifications or administrative amendments, the permittee shall submit an application for significant Title V permit modifications in accordance with 25 Pa. Code § 127.541.

#013 [25 Pa. Code §§ 121.1 & 127.462]

Minor Operating Permit Modifications

(a) The permittee may make minor operating permit modifications (as defined in 25 Pa. Code § 121.1) in accordance with 25 Pa. Code § 127.462.

(b) Unless precluded by the Clean Air Act or the regulations thereunder, the permit shield described in 25 Pa. Code § 127.516 (relating to permit shield) shall extend to an operational flexibility change authorized by 25 Pa. Code § 127.462.

#014 [25 Pa. Code § 127.450]

Administrative Operating Permit Amendments

(a) The permittee may request administrative operating permit amendments, as defined in 25 Pa. Code § 127.450(a), according to procedures specified in § 127.450. Administrative amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations thereunder from being processed as an administrative amendment.

(b) Upon taking final action granting a request for an administrative permit amendment in accordance with § 127.450(c), the Department will allow coverage under 25 Pa. Code § 127.516 (relating to permit shield) for administrative permit amendments which meet the relevant requirements of 25 Pa. Code Article III, unless precluded by the Clean Air Act or the regulations thereunder.

#015 [25 Pa. Code § 127.512(b)]

Severability Clause

The provisions of this permit are severable, and if any provision of this permit is determined by the Environmental Hearing Board or a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

#016 [25 Pa. Code §§ 127.704, 127.705 & 127.707]

Fee Payment

(a) The permittee shall pay fees to the Department in accordance with the applicable fee schedules in 25 Pa. Code Chapter 127, Subchapter I (relating to plan approval and operating permit fees).

(b) Emission Fees. The permittee shall, on or before September 1st of each year, pay applicable annual Title V emission fees for emissions occurring in the previous calendar year as specified in 25 Pa. Code § 127.705. The permittee is not required to pay an emission fee for emissions of more than 4,000 tons of each regulated pollutant emitted from the facility.

(c) As used in this permit condition, the term "regulated pollutant" is defined as a VOC, each pollutant regulated under Sections 111 and 112 of the Clean Air Act and each pollutant for which a National Ambient Air Quality Standard has been promulgated, except that carbon monoxide is excluded.

(d) Late Payment. Late payment of emission fees will subject the permittee to the penalties prescribed in 25 Pa. Code § 127.707 and may result in the suspension or termination of the Title V permit. The permittee shall pay a penalty of fifty percent (50%) of the fee amount, plus interest on the fee amount computed in accordance with 26 U.S.C.A. § 6621(a)(2) from the date the emission fee should have been paid in accordance with the time frame specified in 25 Pa. Code § 127.705(c).

SECTION B. General Title V Requirements

(e) The permittee shall pay an annual operating permit administration fee according to the fee schedule established in 25 Pa. Code § 127.704(c) if the facility, identified in Subparagraph (iv) of the definition of the term "Title V facility" in 25 Pa. Code § 121.1, is subject to Title V after the EPA Administrator completes a rulemaking requiring regulation of those sources under Title V of the Clean Air Act.

(f) This permit condition does not apply to a Title V facility which qualifies for exemption from emission fees under 35 P.S. § 4006.3(f).

#017 [25 Pa. Code §§ 127.14(b) & 127.449]

Authorization for De Minimis Emission Increases

(a) This permit authorizes de minimis emission increases from a new or existing source in accordance with 25 Pa. Code §§ 127.14 and 127.449 without the need for a plan approval or prior issuance of a permit modification. The permittee shall provide the Department with seven (7) days prior written notice before commencing any de minimis emissions increase that would result from either: (1) a physical change of minor significance under § 127.14(c)(1); or (2) the construction, installation, modification or reactivation of an air contamination source. The written notice shall:

(1) Identify and describe the pollutants that will be emitted as a result of the de minimis emissions increase.

(2) Provide emission rates expressed in tons per year and in terms necessary to establish compliance consistent with any applicable requirement.

The Department may disapprove or condition de minimis emission increases at any time.

(b) Except as provided below in (c) and (d) of this permit condition, the permittee is authorized during the term of this permit to make de minimis emission increases (expressed in tons per year) up to the following amounts without the need for a plan approval or prior issuance of a permit modification:

(1) Four tons of carbon monoxide from a single source during the term of the permit and 20 tons of carbon monoxide at the facility during the term of the permit.

(2) One ton of NOx from a single source during the term of the permit and 5 tons of NOx at the facility during the term of the permit.

(3) One and six-tenths tons of the oxides of sulfur from a single source during the term of the permit and 8.0 tons of oxides of sulfur at the facility during the term of the permit.

(4) Six-tenths of a ton of PM10 from a single source during the term of the permit and 3.0 tons of PM10 at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act or 25 Pa. Code Article III.

(5) One ton of VOCs from a single source during the term of the permit and 5.0 tons of VOCs at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act or 25 Pa. Code Article III.

(c) In accordance with § 127.14, the permittee may install the following minor sources without the need for a plan approval:

(1) Air conditioning or ventilation systems not designed to remove pollutants generated or released from other sources.

(2) Combustion units rated at 2,500,000 or less Btu per hour of heat input.

(3) Combustion units with a rated capacity of less than 10,000,000 Btu per hour heat input fueled by natural gas supplied by a public utility, liquefied petroleum gas or by commercial fuel oils which are No. 2 or lighter, viscosity less

SECTION B. General Title V Requirements

than or equal to 5.82 c St, and which meet the sulfur content requirements of 25 Pa. Code § 123.22 (relating to combustion units). For purposes of this permit, commercial fuel oil shall be virgin oil which has no reprocessed, recycled or waste material added.

(4) Space heaters which heat by direct heat transfer.

(5) Laboratory equipment used exclusively for chemical or physical analysis.

(6) Other sources and classes of sources determined to be of minor significance by the Department.

(d) This permit does not authorize de minimis emission increases if the emissions increase would cause one or more of the following:

(1) Increase the emissions of a pollutant regulated under Section 112 of the Clean Air Act except as authorized in Subparagraphs (b)(4) and (5) of this permit condition.

(2) Subject the facility to the prevention of significant deterioration requirements in 25 Pa. Code Chapter 127, Subchapter D and/or the new source review requirements in Subchapter E.

(3) Violate any applicable requirement of the Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under either of the acts.

(4) Changes which are modifications under any provision of Title I of the Clean Air Act and emission increases which would exceed the allowable emissions level (expressed as a rate of emissions or in terms of total emissions) under the Title V permit.

(e) Unless precluded by the Clean Air Act or the regulations thereunder, the permit shield described in 25 Pa. Code § 127.516 (relating to permit shield) applies to de minimis emission increases and the installation of minor sources made pursuant to this permit condition.

(f) Emissions authorized under this permit condition shall be included in the monitoring, recordkeeping and reporting requirements of this permit.

(g) Except for de minimis emission increases allowed under this permit, 25 Pa. Code § 127.449, or sources and physical changes meeting the requirements of 25 Pa. Code § 127.14, the permittee is prohibited from making physical changes or engaging in activities that are not specifically authorized under this permit without first applying for a plan approval. In accordance with § 127.14(b), a plan approval is not required for the construction, modification, reactivation, or installation of the sources creating the de minimis emissions increase.

(h) The permittee may not meet de minimis emission threshold levels by offsetting emission increases or decreases at the same source.

#018 [25 Pa. Code §§ 127.11a & 127.215]

Reactivation of Sources

(a) The permittee may reactivate a source at the facility that has been out of operation or production for at least one year, but less than or equal to five (5) years, if the source is reactivated in accordance with the requirements of 25 Pa. Code §§ 127.11a and 127.215. The reactivated source will not be considered a new source.

(b) A source which has been out of operation or production for more than five (5) years but less than 10 years may be reactivated and will not be considered a new source if the permittee satisfies the conditions specified in 25 Pa. Code § 127.11a(b).

SECTION B. General Title V Requirements

#019 [25 Pa. Code §§ 121.9 & 127.216]

Circumvention

(a) The owner of this Title V facility, or any other person, may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction, over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.

(b) No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of this permit, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior approval of the Department, the device or technique may be used for control of malodors.

#020 [25 Pa. Code §§ 127.402(d) & 127.513(1)]

Submissions

(a) Reports, test data, monitoring data, notifications and requests for renewal of the permit shall be submitted to the:

Regional Air Program Manager
PA Department of Environmental Protection
(At the address given on the permit transmittal letter,
or otherwise notified)

(b) Any report or notification for the EPA Administrator or EPA Region III should be addressed to:

Air Enforcement Branch (3AP00)
United States Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

(c) An application, form, report or compliance certification submitted pursuant to this permit condition shall contain certification by a responsible official as to truth, accuracy, and completeness as required under 25 Pa. Code § 127.402(d). Unless otherwise required by the Clean Air Act or regulations adopted thereunder, this certification and any other certification required pursuant to this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

#021 [25 Pa. Code §§ 127.441(c) & 127.463(e); Chapter 139; & 114(a)(3), 504(b) of the CAA]

Sampling, Testing and Monitoring Procedures

(a) The permittee shall perform the emissions monitoring and analysis procedures or test methods for applicable requirements of this Title V permit. In addition to the sampling, testing and monitoring procedures specified in this permit, the Permittee shall comply with any additional applicable requirements promulgated under the Clean Air Act after permit issuance regardless of whether the permit is revised.

(b) The sampling, testing and monitoring required under the applicable requirements of this permit, shall be conducted in accordance with the requirements of 25 Pa. Code Chapter 139 unless alternative methodology is required by the Clean Air Act (including §§ 114(a)(3) and 504(b)) and regulations adopted thereunder.

#022 [25 Pa. Code §§ 127.511 & Chapter 135]

Recordkeeping Requirements

(a) The permittee shall maintain and make available, upon request by the Department, records of required monitoring information that include the following:

SECTION B. General Title V Requirements

(1) The date, place (as defined in the permit) and time of sampling or measurements.

(2) The dates the analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of the analyses.

(6) The operating conditions as existing at the time of sampling or measurement.

(b) The permittee shall retain records of the required monitoring data and supporting information for at least five (5) years from the date of the monitoring sample, measurement, report or application. Supporting information includes the calibration data and maintenance records and original strip-chart recordings for continuous monitoring instrumentation, and copies of reports required by the permit.

(c) The permittee shall maintain and make available to the Department upon request, records including computerized records that may be necessary to comply with the reporting, recordkeeping and emission statement requirements in 25 Pa. Code Chapter 135 (relating to reporting of sources). In accordance with 25 Pa. Code Chapter 135, § 135.5, such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions. If direct recordkeeping is not possible or practical, sufficient records shall be kept to provide the needed information by indirect means.

#023 [25 Pa. Code §§ 127.411(d), 127.442, 127.463(e) & 127.511(c)]

Reporting Requirements

(a) The permittee shall comply with the reporting requirements for the applicable requirements specified in this Title V permit. In addition to the reporting requirements specified herein, the permittee shall comply with any additional applicable reporting requirements promulgated under the Clean Air Act after permit issuance regardless of whether the permit is revised.

(b) Pursuant to 25 Pa. Code § 127.511(c), the permittee shall submit reports of required monitoring at least every six (6) months unless otherwise specified in this permit. Instances of deviations (as defined in 25 Pa. Code § 121.1) from permit requirements shall be clearly identified in the reports. The reporting of deviations shall include the probable cause of the deviations and corrective actions or preventative measures taken, except that sources with continuous emission monitoring systems shall report according to the protocol established and approved by the Department for the source. The required reports shall be certified by a responsible official.

(c) Every report submitted to the Department under this permit condition shall comply with the submission procedures specified in Section B, Condition #020(c) of this permit.

(d) Any records, reports or information obtained by the Department or referred to in a public hearing shall be made available to the public by the Department except for such records, reports or information for which the permittee has shown cause that the documents should be considered confidential and protected from disclosure to the public under Section 4013.2 of the Air Pollution Control Act and consistent with Sections 112(d) and 114(c) of the Clean Air Act and 25 Pa. Code § 127.411(d). The permittee may not request a claim of confidentiality for any emissions data generated for the Title V facility.

#024 [25 Pa. Code § 127.513]

Compliance Certification

(a) One year after the date of issuance of the Title V permit, and each year thereafter, unless specified elsewhere in the permit, the permittee shall submit to the Department and EPA Region III a certificate of compliance with the terms and conditions in this permit, for the previous year, including the emission limitations, standards or work practices. This

SECTION B. General Title V Requirements

certification shall include:

(1) The identification of each term or condition of the permit that is the basis of the certification.

(2) The compliance status.

(3) The methods used for determining the compliance status of the source, currently and over the reporting period.

(4) Whether compliance was continuous or intermittent.

(b) The compliance certification should be postmarked or hand-delivered within thirty days of each anniversary date of the date of issuance or, of the submittal date specified elsewhere in the permit, to the Department and EPA in accordance with the submission requirements specified in condition #020 of this section.

#025 [25 Pa. Code § 127.3]

Operational Flexibility

(a) The permittee is authorized to make changes within the Title V facility in accordance with the following provisions in 25 Pa. Code Chapter 127 which implement the operational flexibility requirements of Section 502(b)(10) of the Clean Air Act and Section 6.1(i) of the Air Pollution Control Act:

(1) Section 127.14 (relating to exemptions)

(2) Section 127.447 (relating to alternative operating scenarios)

(3) Section 127.448 (relating to emissions trading at facilities with Federally enforceable emissions caps)

(4) Section 127.449 (relating to de minimis emission increases)

(5) Section 127.450 (relating to administrative operating permit amendments)

(6) Section 127.462 (relating to minor operating permit amendments)

(7) Subchapter H (relating to general plan approvals and operating permits)

(b) Unless precluded by the Clean Air Act or the regulations adopted thereunder, the permit shield authorized under 25 Pa. Code § 127.516 shall extend to operational flexibility changes made at this Title V facility pursuant to this permit condition and other applicable operational flexibility terms and conditions of this permit.

#026 [25 Pa. Code §§ 127.441(d), 127.512(i) and 40 CFR Part 68]

Risk Management

(a) If required by Section 112(r) of the Clean Air Act, the permittee shall develop and implement an accidental release program consistent with requirements of the Clean Air Act, 40 CFR Part 68 (relating to chemical accident prevention provisions) and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40).

(b) The permittee shall prepare and implement a Risk Management Plan (RMP) which meets the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68 and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act when a regulated substance listed in 40 CFR § 68.130 is present in a process in more than the listed threshold quantity at the Title V facility. The permittee shall submit the RMP to the federal Environmental Protection Agency according to the following schedule and requirements:

(1) The permittee shall submit the first RMP to a central point specified by EPA no later than the latest of the following:

(i) Three years after the date on which a regulated substance is first listed under § 68.130; or,

SECTION B. General Title V Requirements

(ii) The date on which a regulated substance is first present above a threshold quantity in a process.

(2) The permittee shall submit any additional relevant information requested by the Department or EPA concerning the RMP and shall make subsequent submissions of RMPs in accordance with 40 CFR § 68.190.

(3) The permittee shall certify that the RMP is accurate and complete in accordance with the requirements of 40 CFR Part 68, including a checklist addressing the required elements of a complete RMP.

(c) As used in this permit condition, the term "process" shall be as defined in 40 CFR § 68.3. The term "process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

(d) If the Title V facility is subject to 40 CFR Part 68, as part of the certification required under this permit, the permittee shall:

(1) Submit a compliance schedule for satisfying the requirements of 40 CFR Part 68 by the date specified in 40 CFR § 68.10(a); or,

(2) Certify that the Title V facility is in compliance with all requirements of 40 CFR Part 68 including the registration and submission of the RMP.

(e) If the Title V facility is subject to 40 CFR Part 68, the permittee shall maintain records supporting the implementation of an accidental release program for five (5) years in accordance with 40 CFR § 68.200.

(f) When the Title V facility is subject to the accidental release program requirements of Section 112(r) of the Clean Air Act and 40 CFR Part 68, appropriate enforcement action will be taken by the Department if:

(1) The permittee fails to register and submit the RMP or a revised plan pursuant to 40 CFR Part 68.

(2) The permittee fails to submit a compliance schedule or include a statement in the compliance certification required under Condition #24 of Section B of this Title V permit that the Title V facility is in compliance with the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68, and 25 Pa. Code § 127.512(i).

#027 [25 Pa. Code § 127.512(e)]

Approved Economic Incentives and Emission Trading Programs

No permit revision shall be required under approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this Title V permit.

#028 [25 Pa. Code §§ 127.516, 127.450(d), 127.449(f) & 127.462(g)]

Permit Shield

(a) The permittee's compliance with the conditions of this permit shall be deemed in compliance with applicable requirements (as defined in 25 Pa. Code § 121.1) as of the date of permit issuance if either of the following applies:

(1) The applicable requirements are included and are specifically identified in this permit.

(2) The Department specifically identifies in the permit other requirements that are not applicable to the permitted facility or source.

(b) Nothing in 25 Pa. Code § 127.516 or the Title V permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act, including the authority of the Administrator of the EPA provided thereunder.

SECTION B. General Title V Requirements

(2) The liability of the permittee for a violation of an applicable requirement prior to the time of permit issuance.

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act.

(4) The ability of the EPA to obtain information from the permittee under Section 114 of the Clean Air Act.

(c) Unless precluded by the Clean Air Act or regulations thereunder, final action by the Department on minor or significant permit modifications, and operational flexibility changes shall be covered by the permit shield. Upon taking final action granting a request for an administrative permit amendment, the Department will allow coverage of the amendment by the permit shield in § 127.516 for administrative amendments which meet the relevant requirements of 25 Pa. Code Article III.

(d) The permit shield authorized under § 127.516 is in effect for the permit terms and conditions in this Title V permit, including administrative operating permit amendments and minor operating permit modifications.

SECTION C. Site Level Requirements

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.1]
Prohibition of certain fugitive emissions

No person shall permit the emission into the outdoor atmosphere of any fugitive air contaminant from a source other than the following:

a. Construction or demolition of buildings or structures.

b. Grading, paving and maintenance of roads and streets.

c. Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets.

d. Clearing of land.

e. Stockpiling of materials.

f. Open burning operations.

g. Sources and classes of sources other than those identified above, for which the operator has obtained a determination from the Department that fugitive emissions from the source, after appropriate control, meet the following requirements:

1. The emissions are of minor significance with respect to causing air pollution;

2. The emissions are not preventing or interfering with the attainment or maintenance of any ambient air standard.

 # 002 [25 Pa. Code §123.31]
Limitations

No person shall permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated.

 # 003 [25 Pa. Code §123.41]
Limitations

No person shall permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following:

a. Equal to or greater than 20% for a period or periods aggregating more than three minutes in any 1 hour.

b. Equal to or greater than 60 % at any time.

 # 004 [25 Pa. Code §123.42]
Exceptions

The emission limitations of 25 Pa Code Section 123.41 shall not apply when:

a. The presence of uncombined water is the only reason for failure of the emission to meet the limitation;

b. The emission results from the operation of equipment used solely to train and test persons in observing the opacity of

visible emissions;

c. The emission results from sources specified in Site Level Requirements, Condition #001.

 # 005 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The sulfur content of the No. 2 fuel oil fired, in any source, shall not, at any time, exceed 0.5 % (by weight).

 # 006 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall limit the emissions from the facility during any consecutive 12-month period to the following levels as approved in Plan Approval No. 06-05002B:

a. Particulate (Method 5) - 539.2 tons
b. PM-10 (Methods 201A & 202) - 443.2 tons
c. Nitrogen Oxides (NOx)(as nitrogen dioxide, NO2) - 2621 tons
d. Sulfur Dioxide (SO2) - 436.1 tons
e. Carbon Monoxide (CO) - 349.0 tons
f. Volatile Organic Compounds (VOC) - 53.0 tons
g. Fluorides (as fluorides) - 3.22 tons
h. Sulfuric Acid (H2SO4) - 16.82 tons
i. Lead (Pb) - 0.60 tons

Note: All emissions shall be determined by approved emission factors or approved monitoring devices.

II. TESTING REQUIREMENTS.

 # 007 [25 Pa. Code §123.43]
Measuring techniques

Visible air contaminants may be measured using either of the following:

a. A device approved by the Department and maintained to provide accurate opacity measurements.

b. Observers, trained and certified, to measure plume opacity with the naked eye or with the aid of any devices approved by the Department.

 # 008 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 40 CFR Part 63, MACT]

For any testing the permittee shall do the following:

a. Pursuant to 40 CFR Section 63.7 at least 60 calendar days prior to commencing an emissions testing program, a test

protocol shall be submitted to the Department for review and approval. The test protocol shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

b. Pursuant to 40 CFR Section 63.7 at least 60 calendar days prior to commencing an emission testing program, notification as to the date and time of testing shall be given to the appropriate Regional Office. Notification shall also be sent to the Division of Source Testing and Monitoring. Notification shall not be made without prior receipt of a protocol acceptance letter from the Department.

c. Pursuant to 25 Pa. Code Section 139.53(a)(3) within 15 calendar days after completion of the on-site testing portion of an emission test program, if a complete test report has not yet been submitted, an electronic mail notification shall be sent to the Department's Division of Source Testing and Monitoring and the appropriate Regional Office indicating the completion date of the on-site testing.

d. Pursuant to 40 CFR Part 60.8(a), 40 CFR Part 61.13(f) and 40 CFR Part 63.7(g) a complete test report shall be submitted to the Department no later than 60 calendar days after completion of the on-site testing portion of an emission test program. For those tests being conducted pursuant to 40 CFR Part 61, a complete test report shall be submitted within 31 days after completion of the test

e. Pursuant to 25 Pa. Code Section 139.53(b) a complete test report shall include a summary of the emission results on the first page of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or non-compliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:

1. A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings.
2. Permit number(s) and condition(s) which are the basis for the evaluation.
3. Summary of results with respect to each applicable permit condition.
4. Statement of compliance or non-compliance with each applicable permit condition.

f. Pursuant to 25 Pa. Code Section 139.3 all submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

g. All testing shall be performed in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection.

h. Pursuant to 25 Pa. Code Section 139.53(a)(1) and 139.53(a)(3) all submittals, besides notifications, shall be accomplished through PSIMS*Online available through https://www.depgreenport.state.pa.us/ecomm/Login.jsp when it becomes available. If internet submittal can not be accomplished, two copies of the submittal shall be sent to the Pennsylvania Department of Environmental Protection, Bureau of Air Quality, Division of Source Testing and Monitoring, 400 Market Street, 12th Floor Rachael Carson State Office Building, Harrisburg, PA 17105-8468 with deadlines verified through document postmarks. In a like manner, a copy of the submittal shall be sent to the South Central Regional Office and District Office.

i. The permittee shall ensure all federal reporting requirements contained in the applicable subpart of 40 CFR are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between the state and the federal requirements, the most stringent provision, term, condition, method or rule shall be used by default.

 # 009 [25 Pa. Code §127.441]

Operating permit terms and conditions.

SECTION C. Site Level Requirements

The permittee shall conduct an annual particulate (Method 5) and PM-10 (Method 201A & 202) source test on any six collectors in the following Source Groups: SG02 Raw Mills, SG03 Finish Mills, SG04 Raw Materials, SG06 Clinker Coolers and SG09 Stack Sources.

Note: Each collector within the Source Groups shall be tested during each five year period starting with the calendar year 2010. The permittee shall notify the Department of which collectors will be tested during a calendar year by March 1 of the year the tests are to occur.

 # 010 [25 Pa. Code §127.441]
Operating permit terms and conditions.

In lieu of using EPA Method 202 to sample for the condensable half of the PM-10 emissions, the permittee can use EPA Method 5/202 with the approval of the Department.

 # 011 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

The Department reserves the right to require exhaust stack testing of the source(s) as necessary during the permit term to verify emissions for purposes including emission fees, malfunctions or permit condition violations.

 # 012 [25 Pa. Code §139.1]
Sampling facilities.

Upon the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance by the Department of tests on such source. The Department will set forth, in the request, the time period in which the facilities shall be provided as well as the specifications for such facilities.

III. MONITORING REQUIREMENTS.

 # 013 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall conduct a daily inspection during regular business workdays around the plant periphery during the daylight hours when the plant is in production to detect visible emissions, fugitive visible emissions and malodorous emissions as follows:

a. Visible emissions sources in excess of the limits stated in Section C, Condition #003, Section D and Section E of this permit. Visible emissions may be measured according to the methods specified in Section C, Condition #007. As an alternative, plant personnel who observe such visible emissions shall report each incident to the Department within four hours of the occurrence and arrange for a certified observer to read the visible emissions.

b. Presence of fugitive visible emissions beyond the plant property boundaries, as stated in Section C, Condition #024.

c. Presence of malodorous air contaminants beyond the plant property boundaries as stated in Section C, Condition #002.

 # 014 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain a logbook for recording exceedances of malodorous air contaminants, visible emissions and fugitive visible emissions. The logbook shall include the name of the company representative, date and time of the

monitoring and the wind direction.

 # 015 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

The permittee shall record the pressure drop across all fabric collectors, cyclones or other devices used to control the emissions of particulate at the facility. At a minimum these recordings shall be taken once per week, while the sources and collectors are in operation. The recordings shall be maintained in a manner approved by the Department.

 # 016 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

Each shipment of virgin No. 2 fuel oil to be used in any of the sources in this permit shall be accompanied by a shipping receit from the supplier certifying the sulfur content.

The permittee shall obtain from the supplier of #2 fuel oil to the facility a certification of the heating value and surfur content of the fuels on a semiannual basis. These certifications shall be maintained by the permittee.

The permittee shall obtain from the supplier of natural gas to the facility a certification of the sulfur content and heating value of the gas on a semiannual basis. These certifications shall be maintained by the permittee.

IV. RECORDKEEPING REQUIREMENTS.

 # 017 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91 and 40 CFR Part 63]

Records required under this operating permit shall be kept for a period of five (5) years and shall be made available to the Department upon its request.

 # 018 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain records of the maintenance procedures conducted on all particulate control devices. These records shall include information on bag replacement on fabric collectors.

 # 019 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain records of the facility emissions as found in Condition #006 on a monthly and 12-month rolling total basis.

V. REPORTING REQUIREMENTS.

 # 020 [25 Pa. Code §127.511]
Monitoring and related recordkeeping and reporting requirements.

[Additional authority is derived for this condition from 40 CFR Part 63, Sections 63.2 and 63.10]

The permittee shall report malfunctions which occur at the facility to the Department. As defined in 40 CFR Part 63, Section 63.2 and incorporated by reference in 25 Pa. Code Chapter 124, a malfunction is any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. Malfunctions shall be reported as follows:

a. Malfunctions which occur at the facility and which pose an imminent danger to public health, safety, welfare and the environment, shall be immediately reported to the Department by telephone. The telephone report of such malfunctions shall occur no later than two hours after the incident. The permittee shall submit a written report of instances of such malfunctions to the Department within three (3) days of the telephone report.

b. Unless otherwise required by this permit, any other malfunction that is not subject to the reporting requirements of Condition #021(a), shall be reported to the Department and EPA, in writing, as provided in 40 CFR Part 63, Section 63.10(d)(5).

 # 021 [25 Pa. Code §135.3]
Reporting

An annual report containing monthly records of fuel usage and operating hours for the sources listed in this operating permit shall be submitted to the Air Quality District Supervisor. The report for January 1 through December 31 is due no later than March 1 of the following year for each operating year authorized by the operating permit or its renewal.

VI. WORK PRACTICE REQUIREMENTS.

 # 022 [25 Pa. Code §123.1]
Prohibition of certain fugitive emissions

[Additional authority for this condition is derived from 25 PA Code 127.441]

The permittee shall take all reasonable actions to prevent particulate matter from a source identified in Condition #001 from becoming airborne. These actions shall include, but not limited to, the following:

a. Use, where possible, of water or chemicals for control of dust in the demolition of buildings or structures, construction operations, the grading of roads, or the clearing of land.

b. Application of asphalt, oil, water or suitable chemicals on dirt roads, material stockpiles and other surfaces which may give rise to airborne dusts.

c. Paving and maintenance of roadways where and when possible.

d. Prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means [25 Pa. Code Sections 123.1 and 123.2].

e. Utilize a road sweeper as needed to remove and control road dust accumulations on paved roadways.

 # 023 [25 Pa. Code §127.441]
Operating permit terms and conditions.

Equipment (a differential manometer or equivalent, as approved by the Department), shall be provided and maintained on all particulate controls so that at any time the pressure drop across the collector can be measured.

SECTION C. Site Level Requirements

 # 024 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall not operate any sources which are equipped with a particulate control device unless the control device is operational. All particulate control devices shall be maintained and operated in accordance with good air pollution practices.

VII. ADDITIONAL REQUIREMENTS.

 # 025 [25 Pa. Code §123.2]
Fugitive particulate matter

No person shall emit particulate matter into the outdoor atmosphere from a source specified in 25 Pa Code Section 123.1 if the emissions are visible at the point the emissions pass outside the persons property.

 # 026 [25 Pa. Code §129.14]
Open burning operations

No person shall conduct open burning of materials in such a manner that:

a. The emissions are visible, at any time, at the point such emissions pass outside the property of the person on whose land the open burning is being conducted.

b. Malodorous air contaminants from the open burning are detectable outside the property of the person on whose land the open burning is being conducted.

c. The emissions interfere with the reasonable enjoyment of life and property.

d. The emissions cause damage to vegetation or property.

e. The emissions are or may be deleterious to human or animal health.

This permit does not constitute authorization to burn solid waste pursuant to Section 610(3) of the Solid Waste Management Act, 35 P. S. Section 6018.610(3), or any other provision of the Solid Waste Management Act.

VIII. COMPLIANCE CERTIFICATION.

The permittee shall submit within thirty days of 01/01/2011 a certificate of compliance with all permit terms and conditions set forth in this Title V permit as required under condition #24 of section B of this permit, and annually thereafter.

IX. COMPLIANCE SCHEDULE.

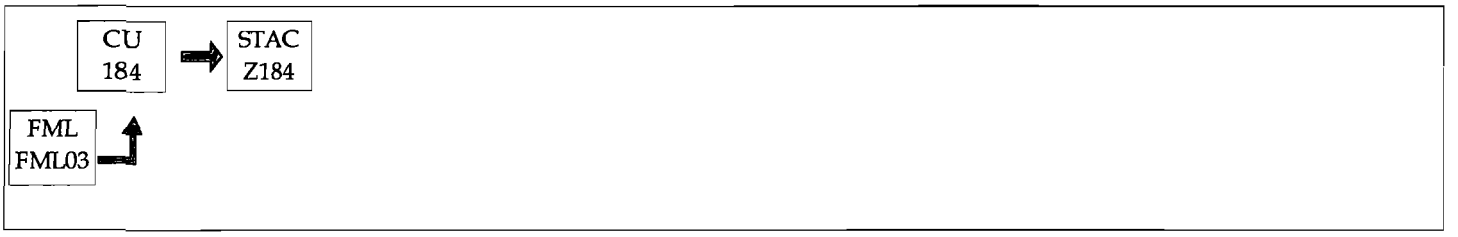
No compliance milestones exist.

*** Permit Shield In Effect ***

SECTION D. Source Level Requirements

Source ID: 184 Source Name: SOLID FUELS HEATER- LCC Z-10

Source Capacity/Throughput: 2.000 MMBTU/HR



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

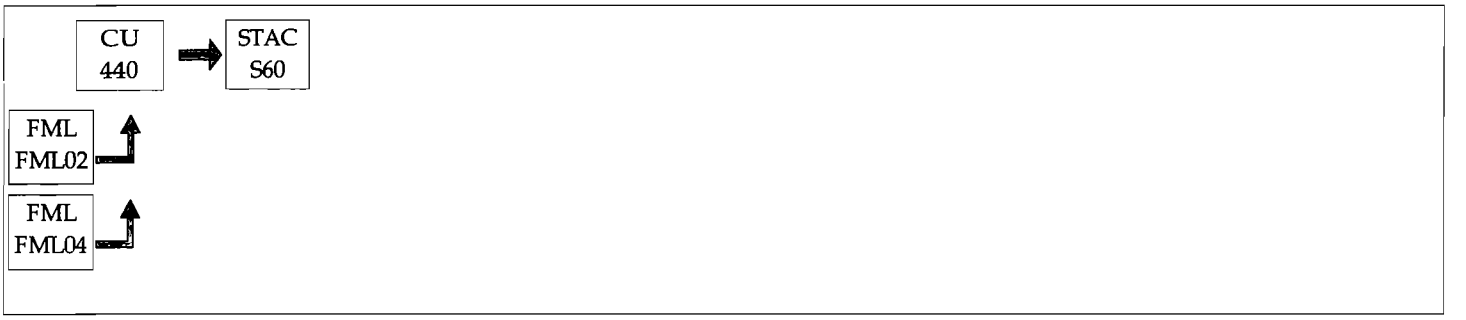
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 440 Source Name: WASH HOUSE BOILER

Source Capacity/Throughput: 2.700 MMBTU/HR
19.700 Gal/HR #2 FUEL OIL
2,700.000 MCF/HR NATURAL GAS



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.22]

Combustion units

No person may permit the emission into the outdoor atmosphere of sulfur oxides, expressed as SO2, from a combustion unit in excess of the rate of 4 pounds per million BTUs of heat input over any 1-hour period.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Chapter 123]

The permittee shall limit the particulate emissions from the boiler to the following:

a. Particulate (Method 5): 0.4 pounds per million BTUs
b. PM-10 (Method 201A & 202): 0.4 pounds per million BTUs

Fuel Restriction(s).

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the amount of #2 fuel oil fired by the source to 60,000 gallons during any consecutive 12-month period.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

SECTION D. Source Level Requirements

IV. RECORDKEEPING REQUIREMENTS.

 # 004 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall maintain a permanent record in a manner approved by the Department. The records shall contain the following information:

a. Monthly fuel, by type, consumption
b. Annual fuel, by type, consumption (12 month running total)
c. Heating values of each fuel (BTUs)
d. Hours of operation (monthly and 12-month rolling total)
e. Sulfur content
f. Emissions of the following pollutants:

1. Particulate
2. PM-10
3. Nitrogen Oxides (NOx) as nitrogen dioxide
4. Carbon Monoxide (CO)
5. Volatile Organic Compounds (VOC)
6. Sulfur Dioxide (SO2)

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 005 [25 Pa. Code §127.444]

Compliance requirements.

[Additional authority for this permit condition is derived from 25 Pa Code § 129.91, RACT]

The permittee shall operate and maintain the Wash House Boiler in accordance with good air pollution control practices.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

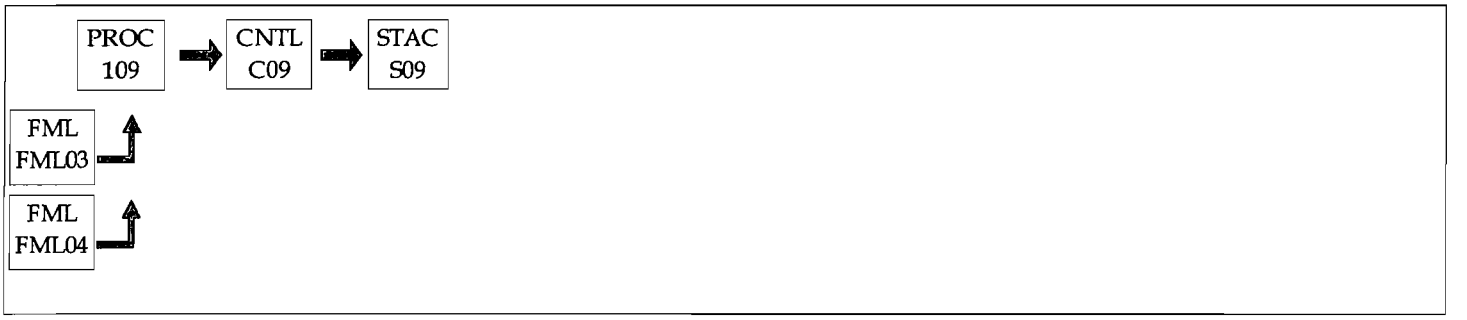
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 109 Source Name: RAW GRIND #1 & HEATER

Source Capacity/Throughput:		
73.000	Gal/HR	#2 FUEL OIL
150.000	Tons/HR	KILN FEED
9,910.000	CF/HR	NATURAL GAS
70.000	Gal/HR	WDLF

Conditions for this source occur in the following groups: SG02 RAW MILLS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

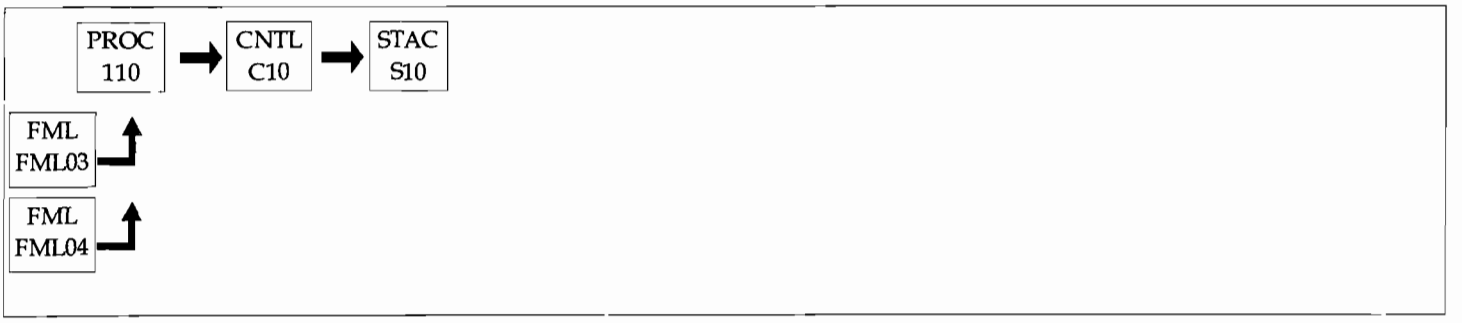
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 110 Source Name: RAW GRIND #2 & HEATER

Source Capacity/Throughput:		
73.000	Gal/HR	#2 FUEL OIL
100.000	Tons/HR	KILN FEED
9,910.000	CF/HR	NATURAL GAS
70.000	Gal/HR	WDLF

Conditions for this source occur in the following groups: SG02 RAW MILLS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

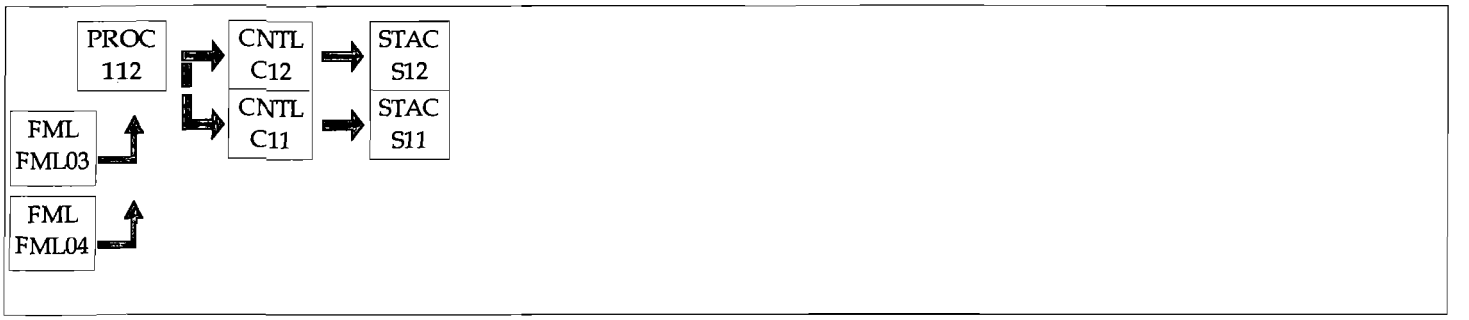
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 112 Source Name: RAW GRIND #3 & HEATER

Source Capacity/Throughput:		
133.000	Gal/HR	#2 FUEL OIL
250.000	Tons/HR	KILN FEED
18,050.000	CF/HR	NATURAL GAS
125.000	Gal/HR	WDLF

Conditions for this source occur in the following groups: SG02 RAW MILLS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. *ADDITIONAL REQUIREMENTS.*

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

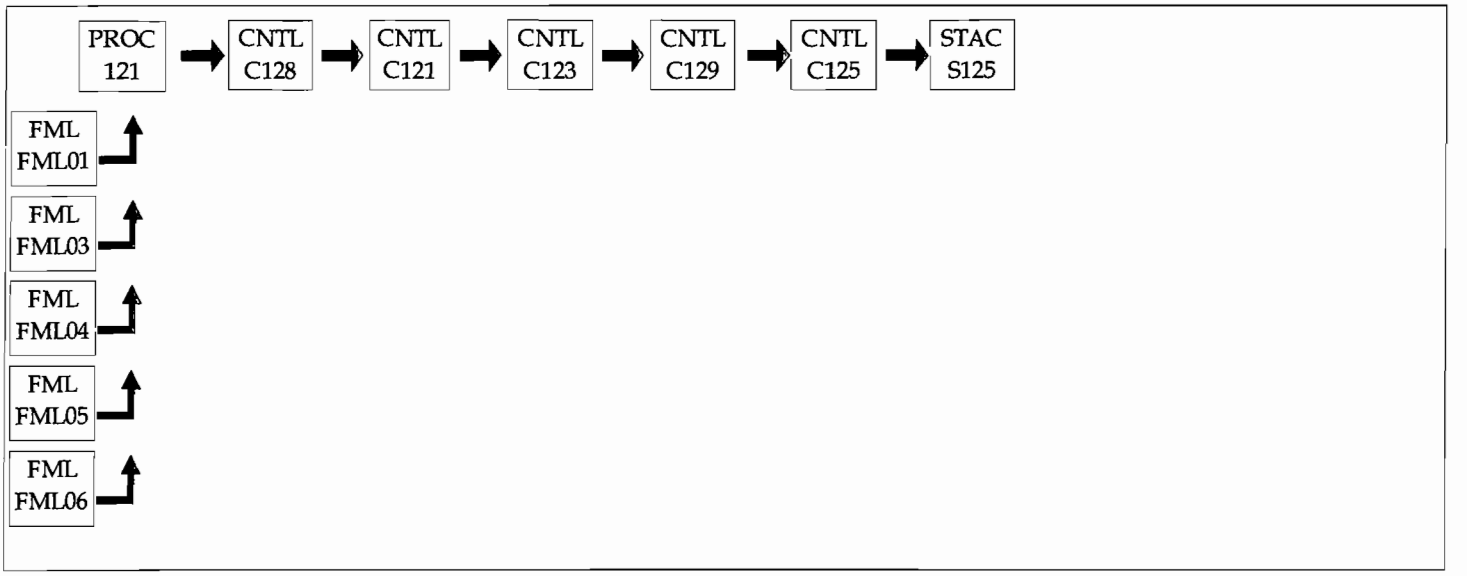
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 121 Source Name: PORTLAND CEMENT KILN #1

Source Capacity/Throughput:		
90.000	Tons/HR	CEMENT CLINKER
15.000	Tons/HR	BITUMIOUS COAL & COKE
600.000	Gal/HR	#2 FUEL OIL
342,850.000	CF/HR	NATURAL GAS
5.750	Tons/HR	WDSF (TIRES)
600.000	Gal/HR	WDLF
3.000	Tons/HR	WDSF (WASTE WOOD)

Conditions for this source occur in the following groups: SG01 CEMENT KILNS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

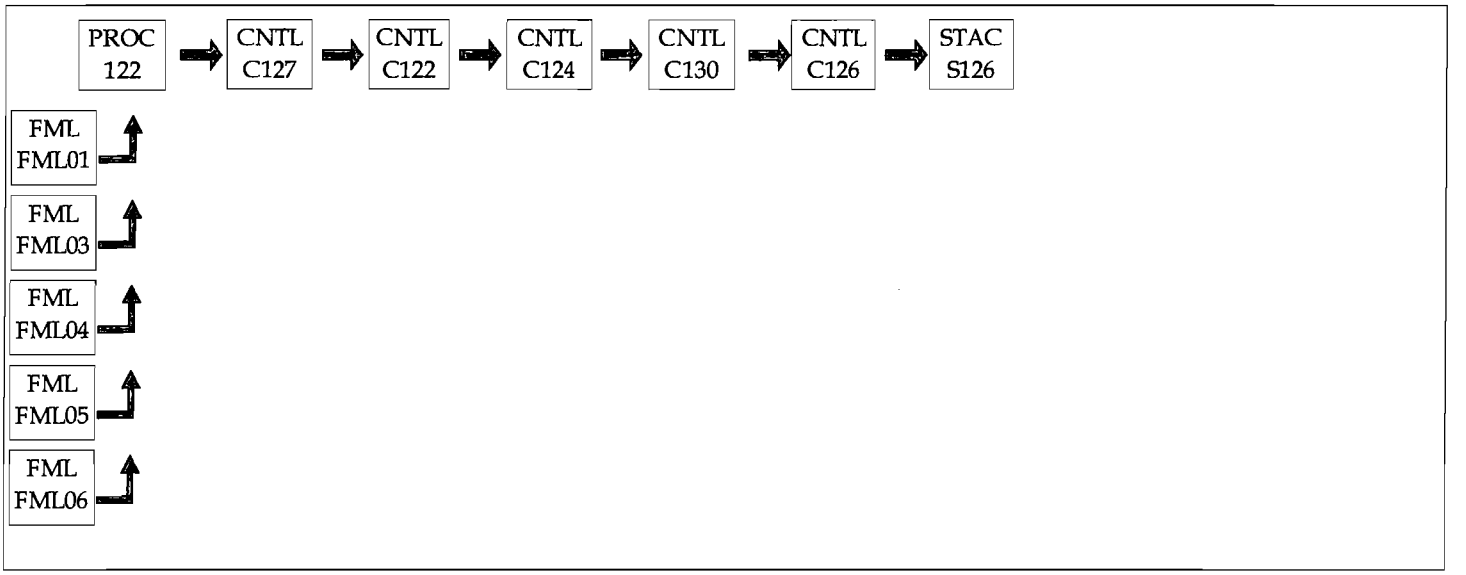
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 122 Source Name: PORTLAND CEMENT KILN #2

Source Capacity/Throughput:		
90.000	Tons/HR	CEMENT CLINKER
15.000	Tons/HR	BITUMINOUS COAL & COKE
600.000	Gal/HR	#2 FUEL OIL
342,850.000	CF/HR	NATURAL GAS
5.750	Tons/HR	WDSF (TIRES)
600.000	Gal/HR	WDLF
3.000	Tons/HR	WDSF (WASTE WOOD)

Conditions for this source occur in the following groups: SG01 CEMENT KILNS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 125 Source Name: CLINKER COOLER #1

Source Capacity/Throughput: 90.000 Tons/HR CEMENT CLINKERS

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

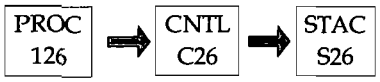
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 126 Source Name: CLINKER COOLER #2

Source Capacity/Throughput: 90.000 Tons/HR CEMENT CLINKERS



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

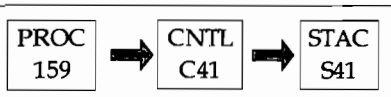
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 159 Source Name: FINISH GRIND #1 MILL

Source Capacity/Throughput: 100.000 Tons/HR CEMENT CLINKER

Conditions for this source occur in the following groups: SG03 FINISH MILLS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 160 Source Name: FINISH GRIND #3 MILL

Source Capacity/Throughput: 140.000 Tons/HR CEMENT CLINKER

Conditions for this source occur in the following groups: SG03 FINISH MILLS
SG05 MACT

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

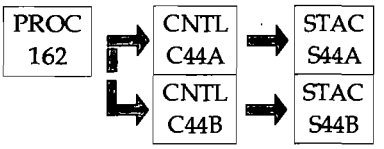
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 162 Source Name: FINISH GRIND #2 MILL

Source Capacity/Throughput: 140.000 Tons/HR CEMENT CLINKER

Conditions for this source occur in the following groups: SG03 FINISH MILLS
SG05 MACT



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

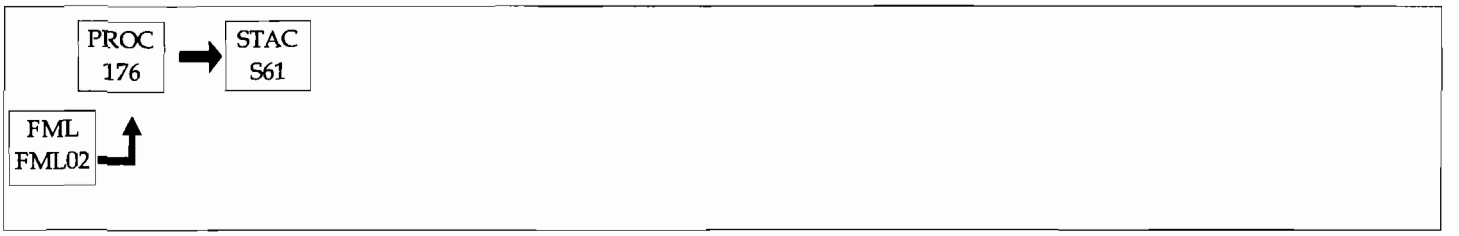
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 176 Source Name: FIRE PUMP (EMERGENCY)

Source Capacity/Throughput: 75.000 Gal/HR DIESEL



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.22]

Combustion units

The permittee may not permit the emission into the outdoor atmosphere of sulfur oxides from a source in a manner that the concentration of sulfur oxides, expressed as SO2, in the effluent gas exceeds 500 parts per million, by volume, dry basis.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the particulate (Method 5) emissions from the source to 0.04 grains per dry standard cubic foot.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Method 201A & 202) emissions from the pump to 0.04 grains per dry standard cubic foot.

Fuel Restriction(s).

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the amount of #2 fuel oil fired in the source to 3,000 gallons during any consecutive 12-month period.

Operation Hours Restriction(s).

 # 005 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa Code Section 129.93, RACT]

The fire pump shall not be operated for more than 500 hours during any consecutive 12-month period.

SECTION D. Source Level Requirements

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 006 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa Code Section 129.91, RACT]

The permittee shall maintain a permanent record in a manner approved by the Department. The records shall contain the following information:

a. The date of operation of the pump
b. The hours of operation of the pump
c. The fuel fired by the pump
d. Heating value of the fuel
e. Annual fuel consumption
f. Annual hours of operation (12 month running total)
g. Sulfur content of fuels
h. Emissions of the following pollutants:

1. Particulate
2. PM-10
3. Nitrogen Oxides (NOx) as nitrogen dioxide
4. Sulfur Dioxide (SO2)
5. Carbon Monoxide (CO)
6. Volatile Organic Compounds (VOC)

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 007 [25 Pa. Code §127.444]

Compliance requirements.

[Additional authority for this permit condition is derived from 25 Pa Code Section 129.93, RACT]

The permittee shall operate and maintain the fire pump in accordance with good air pollution control practices.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

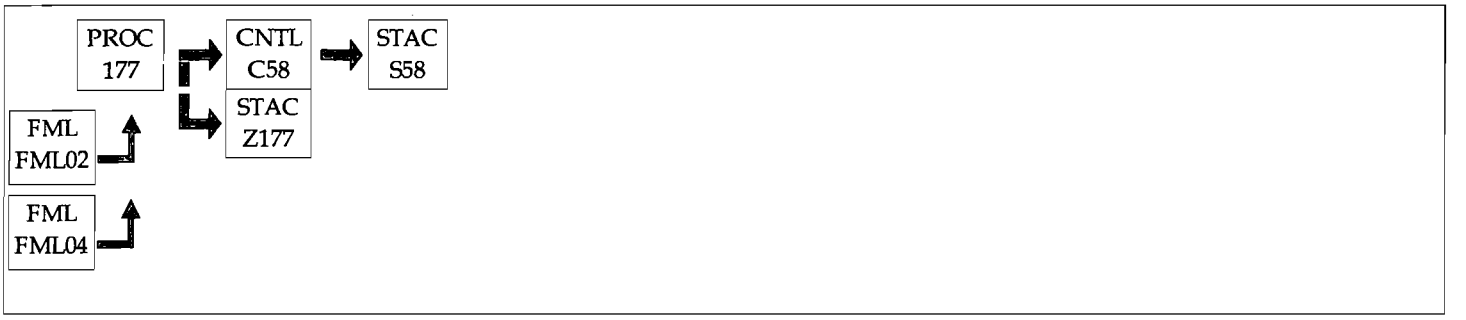
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 177 Source Name: RAW MATERIAL DRYER (SLAG)

Source Capacity/Throughput:	120.000 Tons/HR	RAW MATERIAL
	365.000 Gal/HR	#2 FUEL OIL
	46,952.000 CF/HR	NATURAL GAS

Conditions for this source occur in the following groups: SG04 RAW MATERIALS
SG05 MACT
SG08 STORAGE PILES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 179 Source Name: PLANT ROADWAYS

Source Capacity/Throughput:

PROC 179 → STAC Z01

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain an inventory of the paved and unpaved roadways at the facility. This inventory shall be updated annually (January of each year). This inventory shall be made available to the Department upon request.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall record the estimated emissions (particulate and PM-10) from the plant roadways on an annual basis. These records shall include the factors used to make the estimate.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall take the following actions when inspections of the plant find particulate or fugitive emissions from the roadways:

a. Investigate the source of the emissions.

b. Initiate the appropriate operating procedures.

c. Record the problem, results of the investigation, corrective actions taken and the results.

VII. ADDITIONAL REQUIREMENTS.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

This source includes all plant roadways, paved and unpaved.

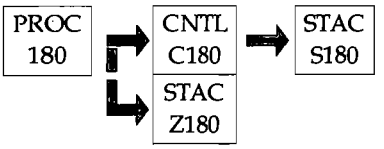
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 180 Source Name: RAW MATERIAL (SLAG/GYPSUM) TRANSFER

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG04 RAW MATERIALS
SG05 MACT
SG07 FUGITIVE SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 181 Source Name: SYNTHETIC GYPSUM SYSTEM

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG05 MACT
SG07 FUGITIVE SOURCES

PROC 181 → STAC Z181

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

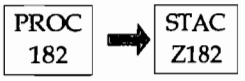
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 182 Source Name: COAL HANDLING SYSTEM

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG05 MACT
SG07 FUGITIVE SOURCES
SG08 STORAGE PILES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 183 Source Name: TIRE HANDLING SYSTEM

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG07 FUGITIVE SOURCES
SG08 STORAGE PILES

PROC		STAC
183	→	Z183

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

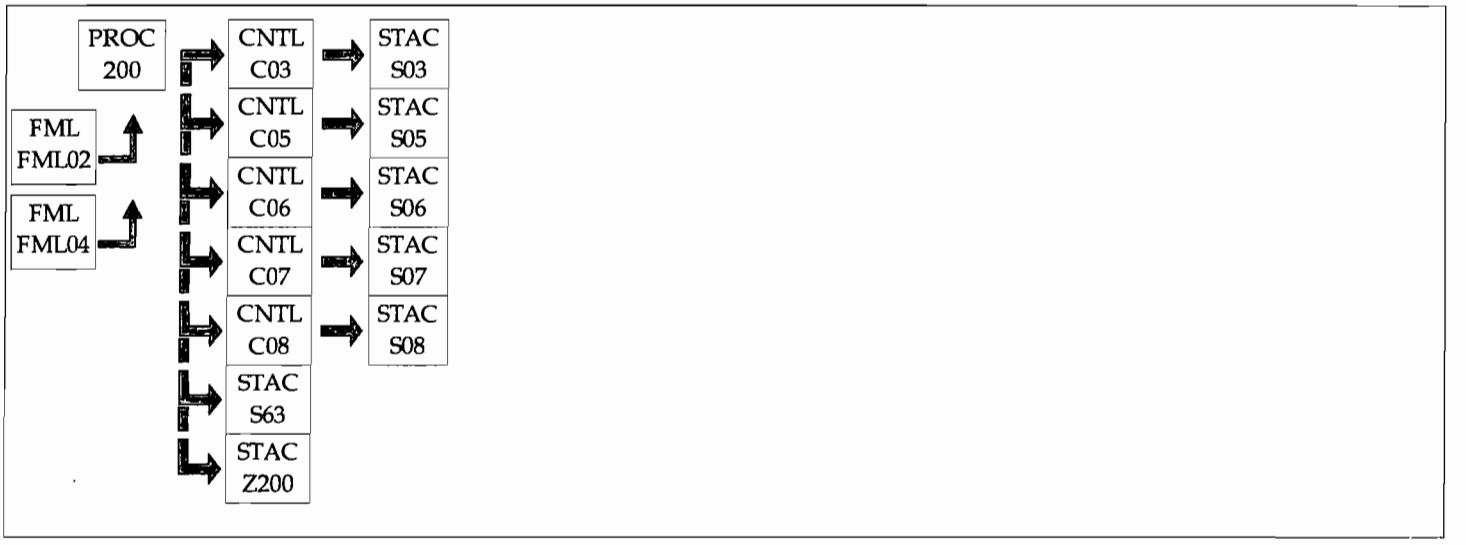
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 200 Source Name: RAW MATERIAL HANDLING

Source Capacity/Throughput:	1,200.000	Tons/HR	RAW MATERIAL
	100.000	CF/HR	NATURAL GAS
	50.000	Gal/HR	#2 FUEL OIL



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

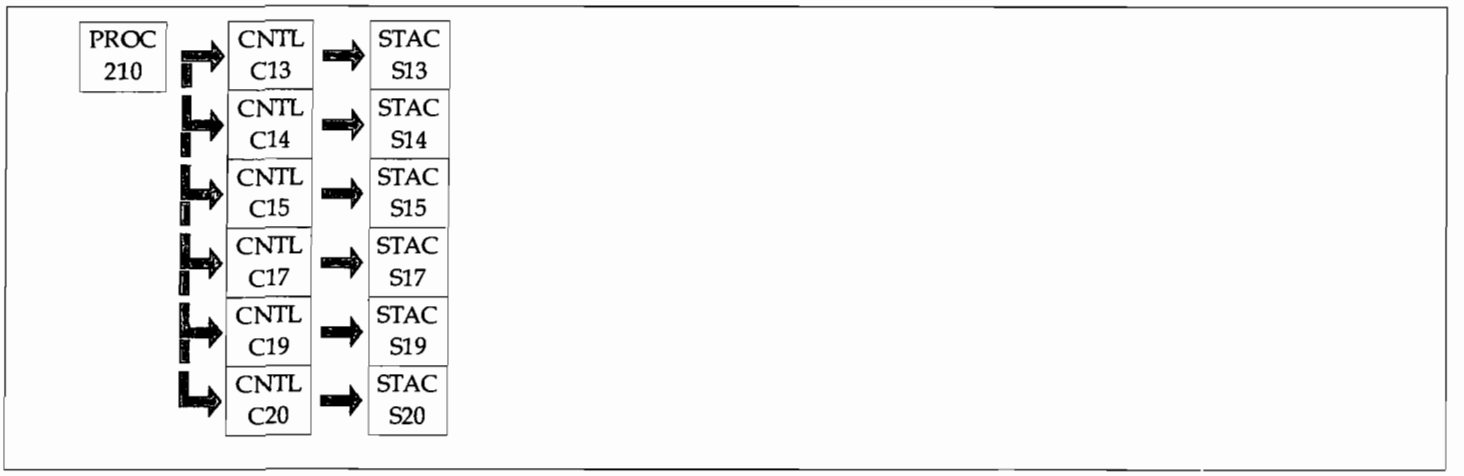
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 210 Source Name: KILN FEED

Source Capacity/Throughput: 1,200.000 Tons/HR KILN FEED

Conditions for this source occur in the following groups: SG05 MACT
SG09 STACK SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

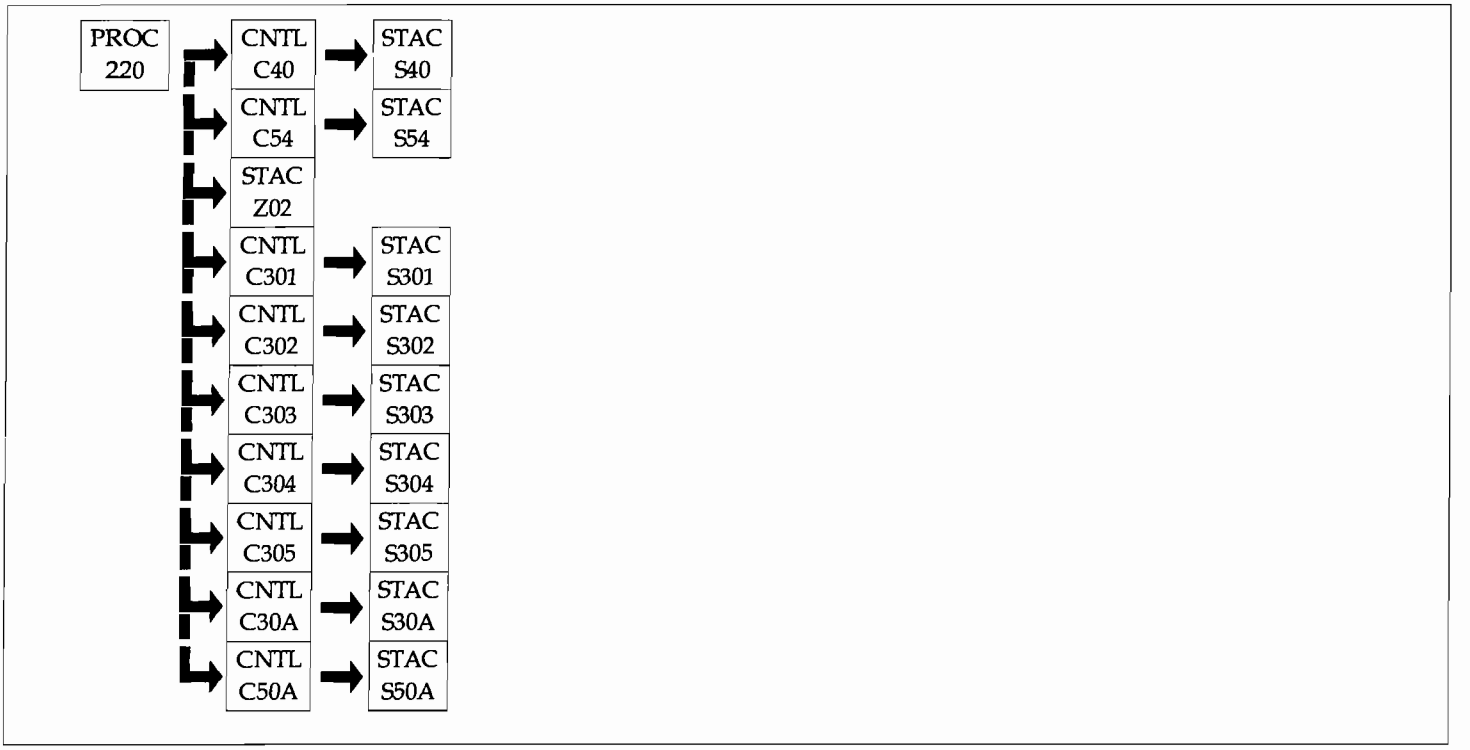
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 220 Source Name: CLINKER HANDLING & STORAGE

Source Capacity/Throughput: 380.000 Tons/HR CLINKER & OTHERS

Conditions for this source occur in the following groups: SG05 MACT
SG07 FUGITIVE SOURCES
SG08 STORAGE PILES
SG09 STACK SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

SECTION D. Source Level Requirements

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

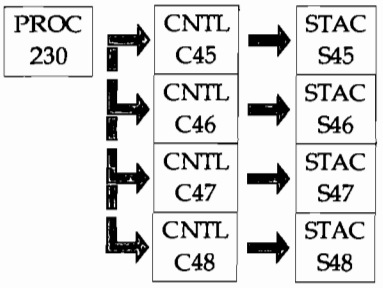
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 230 Source Name: CEMENT STORAGE

Source Capacity/Throughput: 990.000 Tons/HR CEMENT MATERIALS

Conditions for this source occur in the following groups: SG05 MACT
SG09 STACK SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

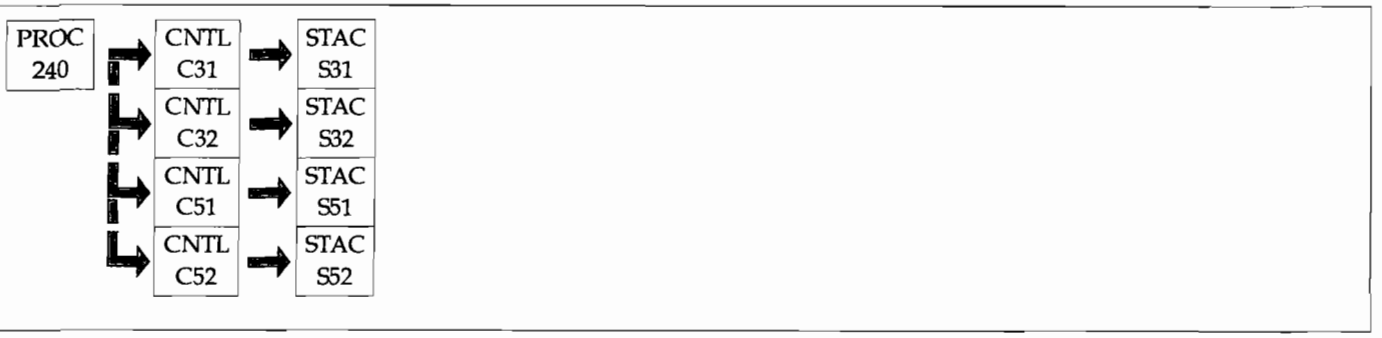
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 240 Source Name: BULK LOADING

Source Capacity/Throughput: 1,600.000 Tons/HR CEMENT

Conditions for this source occur in the following groups: SG05 MACT
SG09 STACK SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

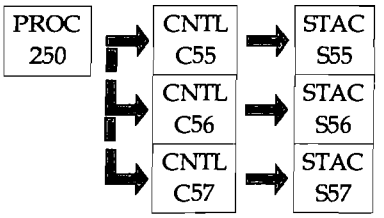
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 250 Source Name: CEMENT PACKAGING PLANT

Source Capacity/Throughput: 550.000 Tons/HR CEMENT

Conditions for this source occur in the following groups: SG05 MACT
SG09 STACK SOURCES



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

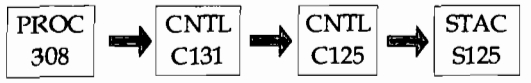
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 308 Source Name: KILN LIME BIN #1

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG01 CEMENT KILNS



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

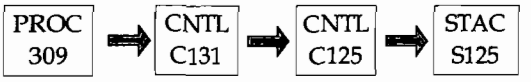
***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 309 Source Name: KILN LIME BIN #2

Source Capacity/Throughput:

Conditions for this source occur in the following groups: SG01 CEMENT KILNS



I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

VII. ADDITIONAL REQUIREMENTS.

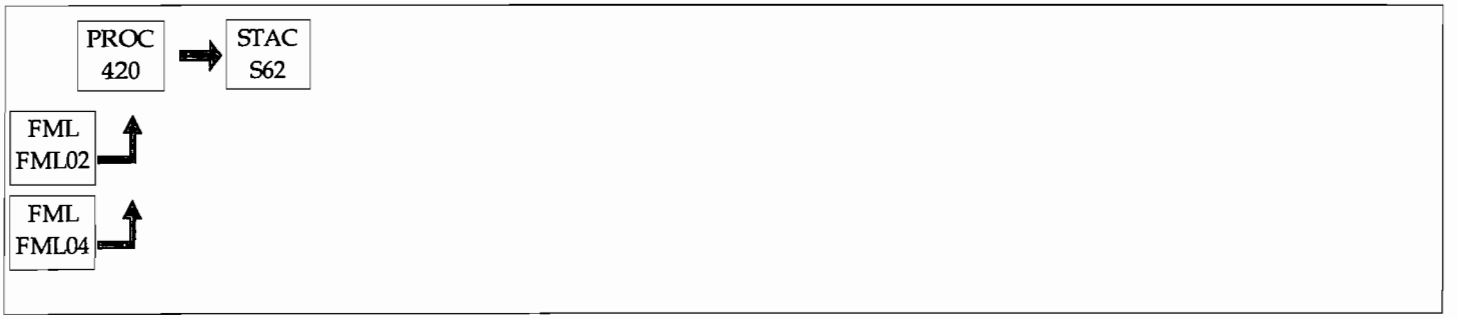
No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements) and/or Section E (Source Group Restrictions).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 420 Source Name: AUX KILN DRIVE

Source Capacity/Throughput: 5.850 Gal/HR #2 FUEL OIL
855.000 CF/HR NATURAL GAS



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 123.13]

The permittee shall limit the particulate emissions to the following:

a. Particulate (Method 5) - 0.04 grains per dry standard cubic foot
b. PM-10 (Method 201A & 202) - 0.04 grains per dry standard cubic foot

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 123.21]

The permittee shall limit the emissions to the outside atmosphere of sulfur oxides, expressed as sulfur dioxide, to 500 parts per million, by volume, dry basis.

 # 003 [25 Pa. Code §127.444]

Compliance requirements.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.93, RACT]

The permittee shall operate and maintain the each auxiliary kiln drive in accordance with good air pollution control practices.

Operation Hours Restriction(s).

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.93, RACT]

The Auxiliary Kiln Drive shall not be operated for more than 500 hours during any consecutive 12-month period.

SECTION D. Source Level Requirements

Throughput Restriction(s).

 # 005 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall limit the amount of #2 fuel oil used to 5,000 gallons during any consecutive 12-month period.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 006 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.91, RACT]

The permittee shall maintain a permanent record in a manner approved by the Department. The records shall contain the following information:

a. The date of operation
b. The hours of operation
c. Amount and type of fuel fired
d. Heating value of all fuels fired in the source
e. Annual fuel consumption
f. Annual hours of operation (12 month running total)
g. Sulfur content of fuels
h. Emissions of the following pollutants (monthly and 12-month rolling total):

1. Particulate
2. PM-10
3. Sulfur Dioxide (SO2)
4. Nitrogen Oxides (NOx) as nitrogen dioxides
5. Carbon Monoxide (CO)
6. Volatile Organic Compounds (VOC)

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

SECTION D. Source Level Requirements

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION D. Source Level Requirements

Source ID: 479 Source Name: MISC COLD CLEANERS

Source Capacity/Throughput:

PROC 479 → STAC Z479

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the emissions of VOCs from the various cold cleaning machines to 0.06 pounds per hour-square foot of opening.

 # 002 [25 Pa. Code §129.63]

Degreasing operations

The permittee shall not use in a cold cleaning machine any solvent with a vapor pressure of 1.0 millimeter of mercury (mm Hg) or greater and containing greater than 5% VOC by weight, measured at 20°C (68°F) containing VOCs.

The above requirement does not apply:

a. To cold cleaning machines used in extreme cleaning service.
b. If the permittee demonstrates, and the Department approves in writing, that compliance with these conditions will result in unsafe operating conditions.
c. To immersion cold cleaning machines with a freeboard ratio equal to or greater than 0.75.

Throughput Restriction(s).

 # 003 [25 Pa. Code §129.63]

Degreasing operations

Any immersion cold cleaning machines shall have a freeboard ratio of 0.50 or greater.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 004 [25 Pa. Code §129.63]

Degreasing operations

The permittee shall maintain for at least two (2) years and shall provide to the Department, on request, the following information:

a. The name and address of the solvent supplier.
b. The type of solvent including the product or vendor identification number.
c. The vapor pressure of the solvent measured in mm Hg at 20°C (68°F).

An invoice, bill of sale, certificate that corresponds to a number of sales, Material Safety Data Sheet (MSDS), or other appropriate documentation acceptable to the Department may be used to comply with this section.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 005 [25 Pa. Code §129.63]
Degreasing operations

The permittee shall for immersion cold cleaning machines and remote reservoir cold cleaning machines:

Have a permanent, conspicuous label summarizing the operating requirements below:

a. Waste solvent shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

b. Flushing of parts using a flexible hose or other flushing device shall be performed only within the cold cleaning machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

c. Sponge, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the cold cleaning machine.

d. Air agitated solvent baths may not be used.

e. Spills during solvent transfer and use of the cold cleaning machine shall be cleaned-up immediately.

In addition, the label shall include shall include the following discretionary good operating practices:

a. Cleaned parts should be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavies or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts should be positioned so that solvent drains directly back to the cold cleaning machine.

b. When a pump-agitated solvent bath is used, the agitator should be operated to produce a rolling motion of the solvent with no observable splashing of the solvent against the tank walls or the parts being cleaned.

c. Work area fans should be located and positioned so that they do not blow across the opening of the degreaser unit.

 # 006 [25 Pa. Code §129.63]
Degreasing operations

The immersion cold cleaning machines shall be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent. For remote reservoir cold cleaning machines which drain directly into the solvent storage reservoir, a perforated drain with a diameter of not more than six (6) inches shall constitute an acceptable cover.

VII. ADDITIONAL REQUIREMENTS.

 # 007 [25 Pa. Code §129.63]

Degreasing operations

The permittee that operates a parts washer or cold cleaning machines that use two gallons or more of solvent containing greater than 5% VOC content by weight for the cleaning of metal parts shall comply with the requirements listed in this section.

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG01 CEMENT KILNS

Group Description: Kilns (2)

Sources included in this group:

ID	Name
121	PORTLAND CEMENT KILN #1
122	PORTLAND CEMENT KILN #2
308	KILN LIME BIN #1
309	KILN LIME BIN #2

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.21]

General

The permittee may not permit the emission into the outdoor atmosphere of sulfur dioxide from a source in a manner that the concentration of sulfur oxides, expressed as SO2, in the effluent gas exceeds 500 parts per million, by volume, dry basis.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the emissions from each kiln to the following emission rates:

a. Particulate (Method 5) - 0.011 grains per dry standard cubic foot and,
34.8 tons during any consecutive 12-month period
b. PM-10 (Method 201A & 202) - 0.03 grains per dry standard cubic foot, and
87.4 tons during any consecutive 12-month period
c. Nitrogen Oxides (NOx)(as nitrogen dioxide NO2) - 367.7 pounds per hour (30-day average)
d. Sulfur Dioxide (SO2) - 59.4 pounds per hour (30-day average)
e. Carbon Monoxide (CO) - 47.7 pounds per hour (30-day average)
f. Volatile Organic Compounds (VOC) - 22.9 tons during any consecutive 12-month period
g. Fluorides (as HF) - 1.61 tons during any consecutive 12-month period
h. Sulfuric Acid (H2SO4) - 8.41 tons during any consecutive 12-month period
i. Lead (Pb) - 0.30 tons during any consecutive 12-month period

Note: The 30-day averages are rolling by 1 day.

Fuel Restriction(s).

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the types of fuel fired in the kilns to the following:

a. Bituminous coal (which may include coke)
b. No. 2 fuel Oil
c. WDLF
d. Natural Gas
e. Whole Tires (WDSF)
f. Waste Wood (WDSF)

SECTION E. Source Group Restrictions.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the sulfur content of the fuels fired in the kilns to the following:

a. Bituminous Coal - 5.0 percent by weight
b. Waste Wood - 0.6 percent by weight
c. WDLF - 0.6 percent by weight

 # 005 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall not accept at the facility any recycled/reprocessed oil (WDLF) which is represented by the oil supplier as failing to meet the following standards, or for which the permittee does not have documentation from the oil supplier regarding the following standards:

Constituent/Property	Limitation Level	Analytical Technique*
Arsenic (As)	<=5.0 mg/kg	SW-846 Method (ICP/AA)
Cadmium (Cd)	<=2.0 mg/kg	SW-846 Method (ICP/AA)
Chromium (Cr)	<=10.0 mg/kg	SW-846 Method (ICP/AA)
Lead (Pb)	<=100.0 mg/kg	SW-846 Method (ICP/AA)
TX	<= 1000 mg/kg	SW-846 Method 9076
PCB**	not detectable	SW-846 Method (H2SO4 ex./GCw/elec.cap.)
Flash Point	>=140°F	ASTM D93
Ash	<=2.0%	

*Alternative methods may be used when approved in writing by the Department.
**PCBs shall not be present in a quantifiable level, defined in 40 CFR 761.1 as 2 micrograms per gram from any resolvable gas chromatographic peak, i.e. 2 mg/kg.

The recycled/reprocessed oil (WDLF) may not contain detectable levels of pesticides and/or herbicides.

 # 006 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee is permitted to fire either Virgin No. 2 fuel oil or the specific recycled/reprocessed Oils [waste derived liquid fuel (WDLF)] identified in this permit in the Portland Cement Kilns No. 1 and No.2. The permittee is only permitted to use recycled/reprocessed oil (WDLF) as supplied by Tri-State Industrial Fuels, Inc. and/or International Recovery Corporation unless prior approval is received from the Department.

Any request for approval of a new supplier shall include the following:

a. Name and address of the new supplier
b. Analysis of the supplier's oil with the items identified in Condition #005 above.
c. BTU rating of the oil

SECTION E. Source Group Restrictions.

 # 007 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The only waste derived solid fuels (WDSF) permitted for use in the kilns are as follows:

a. Whole tires as used for passenger cars, trucks, commercial trucks and buses: Tires may only be fired through each mid-kiln injection port.
b. Waste wood: Waste wood may only be fired through the pneumatic conveyor and firing tube, independent of the coal system, at the clinker end of each kiln.

Throughput Restriction(s).

 # 008 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the maximum firing rate of waste wood (WDSF) at the front end of the kiln to 3.0 tons per hour for each kiln (monthly average).

The permittee may increase this maximum limit provided it can be shown to the Department's satisfaction that the kilns can operate at the higher rates in a sustained manner and all emission restrictions can be achieved as shown through testing.

 # 009 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the production rate of each kiln to 650,000 short tons of clinker during any consecutive 12-month period.

 # 010 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee is permitted to fire waste derived solid fuel (WDSF) in the form of tires in the following manner:

a. At the mid-kiln ports to a maximum of 31 percent (monthly average) of the heat input (maximum of 55.6 mmbtu/hr) to each kiln.

b. At the mid-kiln port to a maximum of 50 percent (monthly average) of the heat input (maximum of 139 mmbtu/hr) to each kiln provided compliance is demonstrated for all applicable emission restrictions to the Department.

 # 011 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code 129.91, RACT]

The permittee shall limit the usage of recycled/reprocessed oil (WDLF) to the following:

a. The maximum firing rate per kiln shall not exceed 600 gallons per hour.

b. The total consumption per kiln shall not exceed 83,900 gallons per year on a 12-month rolling sum.

SECTION E. Source Group Restrictions.

II. TESTING REQUIREMENTS.

 # 012 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 40 CFR Part 63, Subpart LLL, MACT]

To show compliance with the emission limits whenever a higher waste wood (WDSF) firing rate is requested, the permittee shall conduct the following performance tests as per Sections 63.7 and 63.1349 of 40 CFR Part 63, Subpart LLL, MACT, and Chapter 139 of the rules and regulations of the Department: Particulate (Method 5), PM-10 (Methods 201A & 202), Dioxin/Furan, hydrogen chloride and opacity from each kiln for which the new firing rate is proposed.

 # 013 [25 Pa. Code §127.441]
Operating permit terms and conditions.

Prior to accepting each shipment of recycled/reprocessed oil (WDLF) delivered to the facility, the permittee shall test each shipment for total halides using EPA Reference Method 9076, or an alternate test method if approved in writing by the Department. If the test of any shipment reveals total halides in excess of 1,000 mg/kg, then the permittee shall refuse to accept the shipment. The permittee shall keep records of the results of sampling required by this condition for at least two years.

 # 014 [25 Pa. Code §127.441]
Operating permit terms and conditions.

If the permittee fails any of the required emission testing, the source shall be retested within one hundred and eighty (180) days from the previous test date.

 # 015 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall use the following analytical methods to test Wood Fuel (WDSF) for the items below:

a. Moisture	ASTM E871-82
b. Ash	ASTM E1102
c. Sulfur	ASTM E775
d. BTU	ASTM E711-87
e. Volatile Matter and Fixed Carbon	ASTM E872
f. Chlorine	ASTM E776-87
g. Arsenic, Cadmium, Chromium and Lead	ASTM E885-88
h. Hexavalent Chromium	EPA 3060A/EPA 7199
i. Total Halides	EPA SW 9023
j. TCLP	EPA SW-846, Method 1311
k. Ultimate Carbon	ASTM E777
l. Ultimate Hydrogen	ASTM E777
m. Ultimate Nitrogen	ASTM E778

 # 016 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall conduct a PM-10 (Method 201A & 202) performance test as per Chapter 139 of the rules and regulations of the Department each time the particulate test is required by Condition #008, SG05 MACT, Section E.

SECTION E. Source Group Restrictions.

III. MONITORING REQUIREMENTS.

 # 017 [25 Pa. Code §127.441]
Operating permit terms and conditions.

For at least 1 out of every 15 shipments of recycled/reprocessed oil (WDLF) received at the facility, the permittee shall take an additional sample for the purpose of conducting a complete analysis for all the constituents/properties listed in condition #005, above. The permittee shall use test methods specified in condition #005, unless an alternate test method has been approved in writing by the Department. The permittee may accept the oil (WDLF) that is the subject of such analysis and may use oil (WDLF) from any tank to which such oil has been added, for up to 15 days from the date of delivery of the relevant shipment, pending receipt of the analysis results. If the analysis results show exceedances of any of the limits listed in condition #005, above, then the permittee shall cease using recycled/reprocessed oil (WDLF) from the tank(s) in which the relevant shipment was placed, and shall not resume using oil (WDLF) from the tank(s) until either:

a. The Department has granted written approval to resume use of the oil (WDLF) based on an alternate demonstration of acceptability of the oil in the tank(s) for use as fuel at the facility, or

b. The oil (WDLF) remaining in the tank(s) has been re-sampled and

1. If the re-sample meets the limits in condition #005, the Department has granted written permission to resume using the oil, or

2. If the re-sample fails to meet the limits in condition #005, the Department has granted written permission to resume using the tank(s) after the permittee has emptied the oil (WDLF) from the tank(s) and has made proper disposal arrangements.

The permittee shall cease using the oil (WDLF) from such tank(s) not later than 2 hours after making the original determination, or having had reasonable opportunity to make the determination that contaminated waste oil was placed in the tanks. The permittee shall keep records of the results of sampling required by this condition for at least two years.

 # 018 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall take and retain a sample of each shipment of recycled/reprocessed oil (WDLF) that is delivered to the facility. The samples shall be retained on-site for at least six months, and shall be made available to the Department upon request. The samples are to be sealed and identified with the identity of the oil supplier, the date of delivery, the delivery invoice number and the total gallons of oil in the shipment.

 # 019 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall daily take a representative sample of the waste wood received during the last 24 hours. If no wood has been received in the last 24 hours no sample shall be taken. Each week the permittee shall composite all of the daily samples taken since the last weekly testing of the waste wood. The composite shall then be tested for the following parameters:

Proximate Analysis: Moisture, volatiles, ash and fixed carbon
Ultimate Analysis: Carbon, hydrogen, oxygen, nitrogen, sulfur and chlorine
Caloric Value: BTUs per pound
Chemical Analysis: Arsenic, cadmium, chromium, lead and total halides

The permittee may request changes in this sampling frequency should sampling show limited variation and/or insignificant pollutant content. The request shall be submitted to the Department in writing. The permittee shall not change the sampling frequency without first receiving written approval from the Department.

SECTION E. Source Group Restrictions.

 # 020 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall make provisions for the personnel of the Department to take samples of the recycled/reprocessed oil (WDLF) and the waste wood (WDSF) at any time the fuel is on hand and/or being used at the source.

 # 021 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 145.143]

The permittee shall maintain and operate on each kiln a certified continuous emission monitor (CEM) for nitrogen oxides (NOx) as NO2. The CEM shall record the NOx emissions in pounds per hour (wet) as a thirty day rolling average. The CEM shall be maintained and operated in accordance with 25 PA Code, Section 139.101 and Revision No. 7 of the Department's publication "Continuous Source Monitoring Manual, 274-0300-001" or a more recent revision if approved in writing by the Department.

 # 022 [25 Pa. Code §127.441]
Operating permit terms and conditions.

If the analysis results from any random tank sampling conducted by the Department show exceedances of any of the limits listed in condition #005, above, then the permittee shall cease using recycled/reprocessed oil (WDLF) from the affected tank(s) and shall not resume using oil from the tank(s) until either:

a. The Department has granted written approval to resume use of the oil based on an alternate demonstration of compliance for the original sample, or

b. The Department has granted written permission to resume placing oil in the tank(s) after the permittee has emptied the contaminated oil from the tank(s) and has made proper disposal arrangements.

The permittee shall cease using the oil (WDLF) from such tank(s) not later than 2 hours after receiving notification from the Department of the exceedance.

 # 023 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall sample the Bituminous coal fuel for the sulfur and ash content by weight and the BTU value. The sampling shall be as follows: Periodic grab samples (a minimum of one per day) shall be taken of the fuel from the kiln coal pipes between the coal mills and the kilns. These grab samples (a minimum of five consecutive) shall be combined and sampled for the above constituents. A minimum of five composite samples shall be tested per month. Sampling is only required while the kilns are operating on Bituminous coal fuel. The sampling results shall be averaged into a monthly value and recorded as required by this permit.

 # 024 [25 Pa. Code §127.441]
Operating permit terms and conditions.

Continuous emission monitoring (CEM) systems for sulfur dioxide (SO2) and carbon monoxide (CO) shall be operated and maintained on each kiln. The CEMs shall record the SO2 emissions in parts per million (wet) and pounds per hour (wet)

SECTION E. Source Group Restrictions.

as a 30 day average rolling by one day; and the CO in pounds per hour (wet) as a thirty day average rolling by one day. The CEMs shall be operated and maintained in accordance with the requirements of 25 PA Code Chapter 139 and of Revision No. 7 of the Department's "Continuous Source Monitoring Manuel, 274-0300-001" or a more recent revision if approved in writing by the Department.

 # 025 [25 Pa. Code §127.441]
Operating permit terms and conditions.

For the propose of continuous emission monitor (CEM) monitoring for gaseous pollutants, the permittee shall apply the process down definition from the table accompanying the March 1, 2006, letter from the Department.

For the purpose of continuous opacity monitors (COM) monitoring for opacity, the permitee shall apply th eprocess down definition from the table accompanying the May 8, 2006, letter from the Department.

 # 026 [25 Pa. Code §127.441]
Operating permit terms and conditions.

Continuous opacity monitoring (COM) systems for opacity shall be operated and maintained on each kiln. The COMs shall record the opacity in percent. The COMs shall be operated and maintained in accordance with the requirements of 25 PA Code 139 and of Revision No. 6 of the Department's "Continuous Source Monitoring Manuel, 274-0300-001" or a more recent revision if approved in writing by the Department.

IV. RECORDKEEPING REQUIREMENTS.

 # 027 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain records of the analysis of all bituminous coal fuel, recycled/reprocessed oil (WDLF), tires (WDSF) and waste wood (WDSF) used in the kilns.

 # 028 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain the following minimum additional records whenever tires (WDSF) and/or waste wood (WDSF) are utilized in the kilns (by kiln):

a. Bituminous coal fuel (which may include coke) feed rate (tons/day) and heating value
b. WDSF (Tires) feed rate (tons/day) and heating value
c. Percent of total monthly heat input by WDSF (tires)
d. WDSF (Waste Wood) feed rate (tons/day) and heating value
e. Monthly heat input by WDSF (waste wood) in pounds per hour
f. Hours of operation on each WDSF fuel

 # 029 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals of the following:

a. Hours of operation of each kiln
b. Tons of feed to each kiln
c. Tons of clinker from each kiln

d. Clinker/ Raw Feed Ratio
e. Emissions of particulate, PM-10, nitrogen oxides (NOx), sulfur dioxide (S02), carbon monoxide (CO), volatile organic compounds (VOC), fluorides (HF), sulfuric acid (H2SO4) and lead (Pb).
f. Tons of lime injected into each control system

 # 030 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall record the NOx, SO2 and CO emissions from the kilns, using the CEMs, in pounds per hour as a daily average and a 30-day average, rolling by one day. Additionally, the SO2 emissions shall be recorded in ppmv as a 1-hour average, block.

 # 031 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Sections 139.101, 139.103 and 145.74]

The permittee shall comply with the recordkeeping requirements established in 25 PA Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), (and) the "Record Keeping and Reporting" requirements in the Department's Continuous Source Monitoring Manual, Revision No. 6 & 7, 274-0300-001.

Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit condition.

 # 032 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee of the kilns shall maintain a permanent record of all fuels used. The records shall contain the following information.

a. Monthly consumption of each fuel
b. Annual consumption of each fuel (12-month running total)
c. Heating values of fuels (BTUs) (If more than one sample is taken during any 12-month period, all values shall be listed along with a 12-month average.)
d. Hours of operation of each kiln
e. Percent sulfur for each fuel (If more than one sample is taken during any 12-month period, all values shall be listed along with a 12-month average.)
f. Percent ash (bituminous coal only) (If more than one sample is taken during any 12-month period, all values shall be listed along with a 12-month average.)

V. REPORTING REQUIREMENTS.

 # 033 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Sections 139.101, 139.103 and 145.74]

The permittee shall submit quarterly reports of continuous emission monitoring to the Department in accordance with the requirements established in 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for

stationary sources), (and) the "Record Keeping and Reporting" requirements as established in the Department's Continuous Source Monitoring Manual, Revision No. 7, 274-0300-001.

The permittee shall report emissions for all periods of unit operation, including startup, shutdown and malfunction.

Initial quarterly reports following system certification shall be submitted to the Department within 35 days following the date upon which the Department notifies the owner or operator, in writing, of the approval of the continuous source monitoring system for use in determining compliance with applicable emission standards.

Subsequent quarterly reports shall be submitted to the Department within 30 days after the end of each calendar quarter.

Failure to submit required reports of continuous emission monitoring within the time periods specified in this Condition, shall constitute violations of this Permit, unless approved in advance by the Department in writing.

Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit condition.

VI. WORK PRACTICE REQUIREMENTS.

 # 034 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain a Mid-Kiln Air Injection System on each kiln for the primary purpose of controlling NOx emissions with a secondary purpose of controlling SOx and CO emissions.

 # 035 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall cease the use of waste wood (WDSF) in the kilns should the analysis of the composite sample exceed any of the limits listed in this permit. The permittee may not resume use of waste wood as a fuel until one of the following occur:

a. The Department has given written approval to resume use of waste wood, after new composite sampling of the waste wood currently in the storage bin complies with the permit limits, or

b. The Department has given written approval to resume use of waste wood, after sampling of the waste wood being delivered for direct use shows that it meets the permit limits, or

c. The Department has given written approval to resume use of waste wood, after all non-complying waste wood has been removed from the facility and new compliant material has been supplied.

The permittee shall cease using waste wood within two hours of receiving notification of the exceedance.

 # 036 [25 Pa. Code §127.441]

Operating permit terms and conditions.

Continuous emission monitoring systems for NOx, SOx and CO shall meet the following minimum data availability requirements:

In accordance with 25 Pa. Code Section 139.101(12), required monitoring shall, at a minimum, meet one of the following data availability requirements unless otherwise stipulated in this permit, a plan approval, Title 25 or an order issued under Section 4 of the Air Pollution Control Act:

SECTION E. Source Group Restrictions.

a. In each calendar month, at least 90% of the time periods for which [an emission standard or an operational parameter] applies, shall be valid as set forth in the Quality Assurance section of Revision No. 7 of the Department's Continuous Source Monitoring Manual, 274-0300-001, or,

b. In each calendar quarter, at least 95% of the hours shall be valid as set forth in the Quality Assurance section of Revision No. 7 of the Department's Continuous Source Monitoring Manual, 274-0300-001.

Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the regulations.

 # 037 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The permittee shall maintain a lime injection system on each kiln's control system. The injection rate shall be tied to the SO2 continuous emission monitor in a manner that ensures an adequate coating of lime on the fabric collector's bags for the proper control of SO2 and H2SO4.

 # 038 [25 Pa. Code §127.441]
Operating permit terms and conditions.

Continuous opacity monitoring systems shall meet the following minimum data availability requirements:

As required under 25 Pa. Code Section 139.103(2) opacity monitoring systems shall meet at least one of the following data availability requirements, unless otherwise stipulated in this permit, a plan approval, Title 25 or an order issued under Section 4 of the Air Pollution Control Act:

a. At least 90% of the hours in each calendar month shall be valid hours as set forth in the Quality Assurance section of Revision No. 6 of the Department's Continuous Source Monitoring Manual, 274-0300-001, or

b. At least 95% of the hours in each calendar quarter shall be valid hours as set forth in the Quality Assurance section of Revision No. 6 of the Department's Continuous Source Monitoring Manual, 274-0300-001.

Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the regulations.

 # 039 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 pa. Code Section 129.91, RACT]

The permittee shall operate and maintain the kilns in accordance with good air pollution control practices.

 # 040 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa Code Section 129.91]

Waste derived solid fuels (WDSF) shall only be fired during production of Portland Cement clinker. At no time shall these fuels be used during start-up.

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

 # 041 [25 Pa. Code §127.441]
Operating permit terms and conditions.

This permit shall not be construed to authorize the permittee to transport, treat, process or refine waste oil, or to blend off-specification waste oil with other oil for the purpose of producing an on-specification mixture.

 # 042 [25 Pa. Code §127.441]
Operating permit terms and conditions.

The waste wood (WDSF) fired in the kilns shall consist of only: non-treated wood (including stained, painted, laminated); sawdust; wood shavings; and treated wood (including creosote, pentachlorophenol and copper naphthenate). The waste wood shall comply with all requirements of the Department and have received a coproduct determination from the Department (Bureau of Waste Management) prior to usage in the kilns. The waste wood shall originate from a facility holding a valid permit to produce a coproduct fuel or the permittee shall have a valid permit. The waste wood shall have a minimum heating value of 5,000 BTU per pound.

 # 043 [25 Pa. Code §127.441]
Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 Pa. Code Sections 139.101(1)(iv), 139.101(2), 139.101(3), 139.101(4), 139.101(6), 139.101(7), 139.101(8), 139.101(12), 139.101(14) and 139.101(15))]

Continuous Emission Monitoring Systems and components for NOx, SOx and CO must be operated and maintained in accordance with the requirements established in 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and the "Quality Assurance" requirements in the Department's Continuous Source Monitoring Manual, Revision No. 7, 274-0300-001.

Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit condition.

 # 044 [25 Pa. Code §145.143.]
Standard requirements.

By October 31 of each year, the permittee shall calculate the difference between the actual emissions of NOx from each kiln during the period from May 1 through September 30 of the current year and the allowable NOx emissions for that period.

a. The actual NOx emissions shall be determined by using the CEM.

b. The allowable NOx emissions shall be determined by multiplying the tons of clinker produced by each kiln for the period by 6 pounds per ton of clinker produced.

 # 045 [25 Pa. Code §145.143.]
Standard requirements.

The permittee shall surrender to the Department one NOx allowance, as defined in 25 PA Code Section 145.2, for each ton of NOx by which the combined actual emissions exceed the combined allowable emissions for the kilns from May 1 through September 30. The surrendered NOx allowances shall be of current year vintage. For the purposes of determining the amount of allowances to surrender, any remaining fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton and any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

SECTION E. Source Group Restrictions.

If the combined allowable emissions from the kilns from May 1 through September 30 exceed the combined actual emissions from the kilns during the same period, the permittee may deduct the difference or any portion of the difference from the amount of actual emissions from the kilns at the permittee's other facilities located in this Commonwealth for that period.

By November 1 of each year, the permittee shall surrender the required NOx allowances to the Department's designated NOx allowance tracking system account, as defined in 25 PA Code Section 121.1, and shall provide in writing to the Department, the following:

a. The serial number of each NOx allowance surrendered.

b. The calculations used to determine the quantity of NOx allowances required to be surrendered.

If the permittee fails to comply with the above, the permittee shall by December 31 surrender three NOx allowances of the current or later year vintage for each NOx allowance that was required to be surrendered by November 1. The surrender of these NOx allowances does not affect the liability of the permittee for any fine, penalty or assessment, or an obligation to comply with any other remedy for the same violation, under the Clean Air Act or the Air Pollution Control Act.

a. For purposes of determining the number of days of violation, if a facility has excess emissions for the period May 1 through September 30, each day in that period (153 days) constitutes a day in violation unless the permittee demonstrates that a lesser number of days should be considered.

b. Each ton of excess emissions is a separate violation.

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG02 RAW MILLS

Group Description: Raw Mills & Heaters

Sources included in this group:

ID	Name
109	RAW GRIND #1 & HEATER
110	RAW GRIND #2 & HEATER
112	RAW GRIND #3 & HEATER

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.21]

General

The permittee may not permit the emission into the outdoor atmosphere of sulfur dioxide from a source in a manner that the concentration of sulfur oxides, expressed as SO2, in the effluent gas exceeds 500 parts per million, by volume, dry basis.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the emissions from each raw mill (Sources 109, 110 & 112) during any consecutive 12-month period to the following:

a. Raw Mills #1 (109) & #2 (110) (each):

1. Nitrogen Oxides (NOx) as NO2 - 2.57 tons
2. Sulfur Dioxide (SO2) - 3.36 tons
3. Carbon Monoxide (CO) - 1.72 tons
4. Volatile Organic Compounds (VOC) - 0.11 ton
5. Fluorides (F) - 0.000000251 ton
6. Lead (Pb) - 0.0000806 ton

b. Raw Mill #3 (112):

1. Nitrogen Oxides (NOx) as NO2 - 5.10 tons
2. Sulfur Dioxide (SO2) - 6.67 tons
3. Carbon Monoxide (CO) - 3.42 tons
4. Volatile Organic Compounds (VOC) - 0.22 ton
5. Fluorides (F) - 0.000000499 ton
6. Lead (Pb) - 0.000160 ton

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the particulate (Method 5) emissions from the sources to following limits:

a. Raw Grind #1 (Source 109) - 0.0147 grains per dry standard cubic foot
b. Raw Grind #2 (Source 110) - 0.0147 grains per dry standard cubic foot
c. Raw Grind #3 (Source 112) - 0.0147 grains per dry standard cubic foot

SECTION E. Source Group Restrictions.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Methods 201A & 202) emissions from the sources to the following limits:

a. Raw Grind #1 (Source 109) - 0.0125 grains per dry standard cubic foot
b. Raw Grind #2 (Source 110) - 0.0125 grains per dry standard cubic foot
c. Raw Grind #3 (Source 112) - 0.0125 grains per dry standard cubic foot

Fuel Restriction(s).

 # 005 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall not accept at the facility any recycled/reprocessed oil (WDLF) which is represented by the oil supplier as failing to meet the following standards, or for which the permittee does not have documentation from the oil supplier regarding the following standards:

Constituent/Property	Limitation Level	Analytical Technique*
Sulfur (S)	<=0.6 %	
Arsenic (As)	<=5 mg/kg	SW-846 Method
Cadmium (Cd)	<=2 mg/kg	SW-846 Method
Chromium (Cr)	<=10 mg/kg	SW-846 Method
Lead (Pb)	<=100 mg/kg	SW-846 Method
TX	<=1000 mg/kg	SW-846 Method 9076
PCB	not detectable**	SW-846 Method (H2SO4 ex./GC w/elec. cap.)
Flash Point	>=140 °F	ASTM D93***
Ash	<=2 %	

* Utilize the current and most applicable SW-846 method to test for the target analyte and the limitation level. (Alternative methods may be used when approved in writing by the Department.)
** PCBs shall not be present in a quantifiable level, defined in 40 CFR 761.1 as 2 micrograms per gram from any resolvable gas chromatographic peak, i.e. 2 mg/kg.
*** Utilize the ASTM method listed or the current revision.

The recycled/reprocessed oil (WDLF) may not contain detectable levels of pesticides and/or herbicides.

 # 006 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the amount of #2 fuel fired and/or WDLF in the Raw Mill heaters during any consecutive 12-month period as follows:

a. Raw Mill #1 (Source 109) - 94,270 gallons
b. Raw Mill #2 (Source 110) - 94,270 gallons
c. Raw Mill #3 (Source 112) - 187,391 gallons

SECTION E. Source Group Restrictions.

 # 007 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.91, RACT]

This Operating Permit is issued to permit the permittee to fire either Virgin No.2 fuel oil or the specific recycled/reprocessed oil (WDLF) identified in this permit in the heaters associated with the Raw Mills #1, #2 and #3. The permittee is only permitted to use recycled/reprocessed oil (WDLF) as supplied by Tri-State Industrial Fuels, Inc. and/or International Recovery Corporation unless prior approval is received from the Department.

Any request for approval of a new supplier shall include the following:

a. Name and address of the new supplier
b. Analysis of the supplier's oil with the items identified in Condition #005 above.
c. BTU rating of the oil

 # 008 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.91, RACT]

The permittee shall limit the use of WDLF in the Raw Mill Heaters as follows:

a. The maximum firing rate of recycled/reprocessed oil (WDLF) shall not exceed 70 gallons per hour per heater on Raw Mills No. 1 and 2 and 125 gallons per hour per heater on Raw Mill No.3.

b. The total consumption of recycled/reprocessed oil (WDLF) for the Raw Mill Operation shall not exceed 1,228,500 gallons per year based on a 12-month rolling sum.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

 # 009 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall make provisions for personnel of the Department to take samples of the recycled/reprocessed oil (WDLF) at any time the fuel is on hand and/or being used at the source.

 # 010 [25 Pa. Code §127.441]

Operating permit terms and conditions.

For at least 1 out of every 15 shipments of recycled/reprocessed oil received at the facility, the permittee shall take an additional sample for the purpose of conducting a complete analysis for all the constituents/properties listed in Condition #005, above. The permittee shall use test methods specified in Condition #005, unless an alternate test method has been approved in writing by the Department. The permittee may accept the oil that is the subject of such analysis and may use oil

from any tank to which such oil has been added, for up to 15 days from the date of delivery of the relevant shipment, pending receipt of the analysis results. If the analysis results show exceedances of any of the limits listed in Condition #005, above, then the permittee shall cease using recycled reprocessed oil from the tank(s) in which the relevant shipment was placed, and shall not resume using oil from the tank(s) until either:

a. The Department has granted written approval to resume use of the oil based on an alternate demonstration of acceptability of the oil in the tank(s) for use as fuel at the facility, or

b. The oil remaining in the tank(s) has been re-sampled and

1. If the re-sample meets the limits in condition 1, the Department has granted written permission to resume using the oil, or

2. If the re-sample fails to meet the limits in condition #005, the Department has granted written permission to resume using the tank(s) after the permittee has emptied the oil from the tank(s) and has made proper disposal arrangements.

The permittee shall cease using the oil from such tank(s) not later than 2 hours after making the original determination, or having had reasonable opportunity to make the determination that contaminated waste oil was placed in the tanks. The permittee shall keep records of the results of sampling required by this condition for at least two years.

 # 011 [25 Pa. Code §127.441]

Operating permit terms and conditions.

Prior to accepting each shipment of recycled/reprocessed oil (WDLF) delivered to the facility, the permittee shall test each shipment for total halides using EPA Reference Method 9077, or an alternate test method if approved in writing by the Department. If the test of any shipment reveals total halides in excess of 1,000 mg/kg, then the permittee shall refuse to accept the shipment. The permittee shall keep records of the results of sampling required by this condition for at least two years.

 # 012 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall take and retain a sample of each shipment of recycled/reprocessed oil (WDLF) that is delivered to the facility. The samples shall be retained on-site for at least six months, and shall be made available to the Department upon request. The samples are to be sealed and identified with the identity of the oil supplier, the date of delivery, the delivery invoice number and the total gallons of oil in the shipment.

IV. *RECORDKEEPING REQUIREMENTS.*

 # 013 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall maintain a permanent record in the following records related to the Raw Mills:

1. Monthly consumption of each fuel
2. Annual consumption (12 month running total) of each fuel
3. Heating values of each fuel (BTUs)
4. Hours of operation
5. Sulfur content of each fuel

SECTION E. Source Group Restrictions.

The permittee shall maintain records of the analysis and consumption of recycled/reprocessed oil (WDLF) by the source for a period of not less than five (5) years. These records shall be made available to the Department on request.

 # 014 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals of the following:

a. Hours of operation of each mill and heater
b. Emissions of particulate, PM-10, nitrogen oxides (NOx), sulfur dioxide (SO2), carbon monoxide (CO), volatile organic compounds (VOC), fluorides (F) and lead (Pb).
c. Material processed by each mill

 # 015 [25 Pa. Code §127.511]

Monitoring and related recordkeeping and reporting requirements.

The permittee shall maintain records of the analysis and consumption of all recycled/reprocessed oil (WDLF) used in the heaters.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 016 [25 Pa. Code §127.441]

Operating permit terms and conditions.

If the analysis results from any random tank sampling conducted by the Department show exceedences of any of the limits listed in condition #005, above, then the permittee shall cease using recycled/reprocessed oil from the affected tank(s) and shall not resume using oil from the tank(s) until either

a. The Department has granted written approval to resume use of the oil based on an alternate demonstration of compliance for the original sample, or

b. The Department has granted written permission to resume placing oil in the tank(s) after the permittee has emptied the contaminated oil from the tank(s) and has made proper disposal arrangements.

The permittee shall cease using the oil from such tank(s) not later than 2 hours after receiving notification from the Department of the exceedence.

 # 017 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

No recycled/reprocessed oil (WDLF) shipments may be blended into existing fuel or burned by itself unless an analysis has been performed for the constituents/properties of condition #005 and a copy of the analysis is available demonstrating that none of the levels are exceeded.

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

 # 018 [25 Pa. Code §127.441]

Operating permit terms and conditions.

This permit shall not be construed to authorize the permittee to transport, treat, process or refine waste oil, or to blend off-specification waste oil with other oil for the purpose of producing an on-specification mixture.

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG03 FINISH MILLS

Group Description: Finishing Mills

Sources included in this group:

ID	Name
159	FINISH GRIND #1 MILL
160	FINISH GRIND #3 MILL
162	FINISH GRIND #2 MILL

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the particulate (Method 5) emissions from each mill to 0.0118 grains per dry standard cubic foot.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Methods 201A & 202) emissions from each mill to 0.01 grains per dry standard cubic foot.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals for each mill of the following:

a. Tons of material handled by each mill
b. Emissions of particulate and PM-10
c. Hours of operation of each mill

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG04 RAW MATERIALS

Group Description: Raw Material Drying & Handling Operation

Sources included in this group:

ID	Name
177	RAW MATERIAL DRYER (SLAG)
180	RAW MATERIAL (SLAG/GYPSUM) TRANSFER

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 Pa. Code Section 129.91, RACT]

The permittee shall limit the actual annual emissions from the Raw Material Dryer (177) to the levels below. All annual emission limits apply on a rolling monthly basis over any consecutive 12-month period.

a. Particulate (TSP) - 3.08 tons
b. PM-10 - 2.62 tons
c. Sulfur Dioxides - 0.4 tons
d. Nitrogen Oxides - 5.80 tons

The sulfur content of the No.2 fuel oil fired in the dryer shall not, at any time, exceed 0.4 % (by weight).

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall operate the sources in a manner such that there are no visible or malodorous emissions.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 123.21]

The permittee shall limit the sulfur dioxide emissions from the raw material dryer (177) to 500 parts per million.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 123.21]

The permittee shall limit the sulfur dioxide emissions from the Rock Silo Heaters (200/410) to 500 parts per million.

 # 005 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the emissions of particulate (Method 5) from these sources to the following:

0.0118 grains per dry standard cubic foot

SECTION E. Source Group Restrictions.

Except for the following:

a. Rock Silo West (Source 200/105) - 0.0147 grains per dry standard cubic foot
b. Rock Silo East (Source 200/106) - 0.0147 grains per dry standard cubic foot
c. Rock Silo Heaters (Source 200/410) - 0.04 grains per dry standard cubic foot

 # 006 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Methods 201A & 202) emissions from the sources to following:

0.01 grains per dry standard cubic foot

Except for the following:

a. Rock Silo West (Source 200/105) - 0.0125 grains per dry standard cubic foot
b. Rock Silo East (Source 200/106) - 0.0125 grains per dry standard cubic foot
c. Rock Silo Heaters (Source 200/410) - 0.04 grains per dry standard cubic foot

Operation Hours Restriction(s).

 # 007 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.91, RACT]

The total annual heat input to the raw material dryer (177) shall not exceed 103 billion BTU's (12 month rolling total). This heat input may be achieved by firing either No.2 fuel oil or natural gas.

 # 008 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this permit condition is derived from 25 PA Code Section 129.91, RACT]

The permittee shall limit the operation of the Raw Material Dryer (177) to:

a. 3000 hours per 12 months rolling total
b. 200,000 tons of product per 12 months rolling total

Throughput Restriction(s).

 # 009 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the amount of #2 fuel oil fired by the Rock Silo Heaters (200/410) to 5000 gallons during any consecutive 12-month period.

SECTION E. Source Group Restrictions.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

 # 010 [25 Pa. Code §127.441]

Operating permit terms and conditions.

Equipment(a differential manometer or equivalent, as approved by the Department), shall be provided and maintained so that, at any time, the pressure drop across the fabric collector can be measured.

 # 011 [25 Pa. Code §127.441]

Operating permit terms and conditions.

[Additional authority for this condition is derived from 25 PA Code Section 129.91, RACT]

The permittee shall keep records of the following items:

a. Particulate matter (TSP) and PM-10 from each source

b. Nitrogen oxide, sulfur dioxide and carbon monoxide emissions from the dryer

c. Sulfur content (by weight) in #2 fuel oil (each shipment)

d. Monthly operating hours for each source

e. Monthly fuel throughput for each source using a fuel

f. BTU rating for each fuel used (annual certification from supplier)

IV. RECORDKEEPING REQUIREMENTS.

 # 012 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall keep records in a manner approved by the Department on a monthly basis for, at least, a period of five years for all emissions and parameters listed in Condition #011 above.

V. REPORTING REQUIREMENTS.

 # 013 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall submit to the Department along with its annual AIMS report a yearly compilation of the monthly records required in Condition # 012 above.

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG05 MACT

Group Description: MACT Sources

Sources included in this group:

ID	Name
109	RAW GRIND #1 & HEATER
110	RAW GRIND #2 & HEATER
112	RAW GRIND #3 & HEATER
121	PORTLAND CEMENT KILN #1
122	PORTLAND CEMENT KILN #2
159	FINISH GRIND #1 MILL
160	FINISH GRIND #3 MILL
162	FINISH GRIND #2 MILL
177	RAW MATERIAL DRYER (SLAG)
180	RAW MATERIAL (SLAG/GYPSUM) TRANSFER
181	SYNTHETIC GYPSUM SYSTEM
182	COAL HANDLING SYSTEM
210	KILN FEED
220	CLINKER HANDLING & STORAGE
230	CEMENT STORAGE
240	BULK LOADING
250	CEMENT PACKAGING PLANT

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1343]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Standards for kilns and in-line kiln/raw mills.

The permittee shall not cause to be discharged into the atmosphere from either of the kilns any gases which:

a. Contain particulate matter (PM) in excess 0.30 pound per ton of feed (dry basis) to the kiln,
b. Exhibit an opacity greater than 20 percent,
c. Contain Dioxin/Furan (D/F) in excess of :
1. 8.7X10-11 grain per dry standard cubic foot (TEQ) corrected to 7 percent oxygen, or
2. 1.7x10-10 grain per dry standard cubic foot (TEQ) corrected to 7 percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 400°F or less.

 # 002 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1344]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Operating limits for kilns and in-line kiln/raw mills.

The permittee must operate the kilns such that the temperature of the gases at the inlet of each fabric collector is below the temperature limit determined during the most recent Dioxin/Furan testing.

Note: The current limits being: 414.2°F for Kiln #1 and 405.7°F for Kiln #2 based on testing conducted on January 12, 2006 and January 10, 2007. These current temperature limits could change as a result of future testing.

SECTION E. Source Group Restrictions.

 # 003 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1345]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Standards for clinker coolers.

The permittee shall not cause to be discharged into the atmosphere from either of the clinker coolers any gases which:

a. Contain particulate matter (PM) in excess 0.10 pound per ton of feed (dry basis) to the kiln,
b. Exhibit an opacity greater than 10 percent.

 # 004 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1347]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Standards for raw and finish mills.

The permittee shall not cause to be discharged into the atmosphere from either of the Raw or finish mills any gases which exhibit an opacity in excess of 10 percent.

 # 005 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1348]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Standards for affected sources other than kilns; in-line kiln/raw mills; clinker coolers; new and reconstructed raw material di

The permittee shall not cause to be discharged into the atmosphere from any raw material, clinker or finish product storage; conveying system transfer point; bagging system; bulk loading or unloading system; or each raw material dryer, at the facility any gases which exhibit an opacity in excess of 10 percent.

 # 006 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6]

Subpart A--General Provisions

Compliance with standards and maintenance requirements.

As specified in 40 CFR Section 63.6(f)(1) and 63.6(h), the opacity and non-opacity emission standards set by 40 CFR Part 63, Subpart LLL, shall apply at all times except during periods of start-up, shutdown and malfunctions. This exception is only valid if the permittee follows the "Start-up, Shutdown and Malfunction Plan" for the facility.

Throughput Restriction(s).

 # 007 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1344]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Operating limits for kilns and in-line kiln/raw mills.

The permittee shall not use as a raw material or fuel in the kiln any fly ash where the mercury content of the fly ash has been increased through the use of activated carbon, or any other sorbent unless the facility can demonstrate that the use of the fly ash will not result in an increase in the mercury emissions over the baseline emissions. The permittee has the burden of proving there has been no emission increase over the baseline.

SECTION E. Source Group Restrictions.

II. TESTING REQUIREMENTS.

 # 008 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

The permittee shall perform a compliance test for particulate on the kilns and clinker coolers once every five (5) years from the date of the last performance test. The testing shall be in accordance with EPA Method 5.

 # 009 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

The permittee shall perform a compliance test for opacity on all affected sources, except the kilns and clinker coolers, once every five (5) years from the date of the last performance test. The testing shall be in accordance with EPA Method 9.

 # 010 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

The permittee shall perform a compliance test for dioxins/furans on the kilns once every thirty (30) months from the date of the last performance test. The testing shall be in accordance with EPA Method 23.

 # 011 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

If the permittee plans to undertake a change in the operation of the sources that may adversely affect compliance with an applicable dioxins/furans standard under this permit or 40 CFR Part 63, Subpart LLL, the permittee must conduct a performance test and establish new temperature limits as specified in this permit.

 # 012 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

All testing shall be conducted when the affected sources are operating at the representative performance conditions in accordance with 40 CFR Section 63.7(e).

 # 013 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Performance testing requirements.

If the permittee plans to undertake a change in the operation of the sources that may adversely affect compliance with an applicable particulate standard for the kilns under this permit or 40 CFR Part 63, Subpart LLL, the permittee must conduct a

performance test as specified in 40 CFR Section 63.1349(b)(1).

 # 014 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1349]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Performance testing requirements.

In preparation for and while conducting a performance test required by a change in the operations of the sources, the permittee may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the following conditions are met:

a. The permittee shall submit to the Department, in writing, a notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard in this permit, or as soon as practicable where 60 days advance notice is not feasible. The notice shall include:

1. A description of the planned change,
2. The emission standards that may change,
3. A schedule for completion of the performance test, and
4. When the planned operational change period will begin.

b. The performance test results must be documented in a test report according to this permit.

c. A test plan must be made available to the Department prior to the testing, if requested.

d. The performance test must be conducted, and it must be completed within 360 hours after the planned operational change period begins.

III. MONITORING REQUIREMENTS.

 # 015 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Monitoring requirements.

The requirement to conduct Method 22 visible emissions monitoring under Condition #019 does not apply to totally enclosed conveying system transfer points, regardless of the location. The points shall be enclosed on all sides, top and bottom, and not be exhausted to the atmosphere. The enclosures for these transfer points shall be operated and maintained as total enclosures on a continuing basis in accordance with the facility O & M Plan.

If any partially enclosed or unenclosed conveying transfer point is located in a building and is not exhausted to the atmosphere, the permittee shall have the option to conduct a Method 22 visible emissions monitoring test according to the requirements of Condition #019 for each transfer point or for the building itself. If the permittee chooses the building monitoring, the emissions testing shall be for each side of the building, the roof and all vents of the building for at least one minute. The test must be conducted under normal operating conditions.

 # 016 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Monitoring requirements.

The permittee shall monitor the opacity of each kiln at the point where emissions are vented in accordance with the

SECTION E. Source Group Restrictions.

following:

The permittee shall install, calibrate, maintain, and continuously operate a continuous opacity monitor (COM) located at the outlet of the particulate control device to continuously monitor the opacity. The COM shall be installed, maintained, calibrated, and operated as required by 40 CFR Parts 60 and 63, and the Department's "Continuous Source Monitoring Manual, Revision No.7".

To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 20 percent. If the average opacity for any 6-minute block period exceeds 20 percent, this shall constitute a violation of the standard.

 # 017 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Monitoring requirements.

The permittee shall monitor the opacity from the raw mills and finish mills by conducting daily visible emissions observations of each particulate control device discharge, in accordance with the procedures of Method 22 of Appendix A of 40 CFR Part 60. The Method 22 tests shall be conducted while the affected sources are operating at representative performance conditions in accordance with 40 CFR Section 63.7(e). The duration of the Method 22 test shall be six minutes. If visible emissions are observed during any Method 22 visible emission test, the permittee must:

a. Initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan .

b. Within 24 hours of the end of the Method 22 test in which visible emissions were observed, conduct a follow up Method 22 test of each stack from which visible emissions were observed during the previous Method 22 test. If visible emissions are observed during this follow up Method 22 test from any stack from which visible emissions were observed during the previous Method 22 test, conduct a visible opacity test of each stack from which emissions were observed during the follow up Method 22 test in accordance with Method 9 of Appendix A of 40 CFR Part 60. The duration of the Method 9 test shall be thirty minutes.

 # 018 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Monitoring requirements.

The permittee shall prepare for each affected source subject to the provisions of 40 CFR Part 63, Subpart LLL, a written operations and maintenance plan. The plan shall be submitted to the Department for review and approval. The plan shall include the following information:

a. Procedures for proper operation and maintenance of the affected sources and air pollution control devices in order to meet the emission limits and operating limits of 40 CFR Part 63, Subpart LLL.

b. Corrective actions to be taken when required by 40 CFR Part 63, Subpart LLL.

c. Procedures to be used during an inspection of the components of the combustion system of each kiln located at the facility at least once per year.

d. Procedures to be used to periodically monitor affected sources to opacity standards under 40 CFR Part 63, Subpart LLL.

Failure to comply with any provision of the operations and maintenance plan, developed in accordance with above, shall be a violation of the standard.

SECTION E. Source Group Restrictions.

 # 019 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Monitoring requirements.

The permittee must conduct a monthly 1-minute visible emissions test of each affected source, excluding the kilns, clinker coolers and the raw and finish mills, in accordance with Method 22 of Appendix A of 40 CFR Part 60. The test most be conducted while the affected source is in operation.

If no visible emissions are observed in the six consecutive monthly tests for any affected source, the permittee may decrease the frequency of the testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, the permittee must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

If no visible emissions are observed during the semi-annual test for any affected source, the permittee may decrease the frequency of testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual test, the permittee must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

If visible emissions are observed during any Method 22 test, the permittee shall take corrective actions within one (1) hour. Following the corrective actions a follow-up Method 22 test shall be conducted within 24 hours of the actions. If visible emissions are observed during this follow-up test, the permittee must conduct a 6-minute test of opacity in accordance with Method 9 of Appendix A, 40 CFR Part 60. The Method 9 test must begin within one hour of the observation of visible emissions during the follow-up test.

If the visible emissions from a building are monitored, the requirements of this paragraph apply to the monitoring of the building, and the permittee must also test visible emissions from each side, roof and vent of the building for at least one minute. The testing must be conducted under normal operating conditions.

 # 020 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Monitoring requirements.

The permittee shall monitor the opacity of each clinker cooler at each point where the emissions are vented in accordance with the following:

a. Perform daily visual opacity observations of each stack in accordance with the procedures of Method 9 of Appendix A of 40 CFR Part 60. The Method 9 test shall be conducted while the affected sources are operating at the representative performance conditions in accordance with 40 CFR Section 63.7(e). The duration of the Method 9 test shall be at least 30 minutes each day.

b. Use the Method 9 procedures to monitor and record the average opacity for each six-minute period during the test.

To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard.

 # 021 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

SECTION E. Source Group Restrictions.

Monitoring requirements.

The permittee shall monitor Dioxin/Furan emissions as follows:

a. The permittee shall install, calibrate, maintain and continuously operate a continuous monitor to record the temperature of the exhaust gases from the kilns at the inlet to the particulate control device.

1. The recorder response range must include zero to 1.5 times the temperature limit.

2. The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Department.

b. The permittee shall monitor and continuously record the temperature of the exhaust gases from the kiln at the inlet to the particulate control device.

c. The three-hour rolling average temperature shall be calculated as the average of 180 successive one-minute average temperatures.

d. Periods of time when one-minute averages are not available shall be ignored when calculating three-hour rolling averages. When one-minute averages become available, the first one-minute average is added to the previous 179 value to calculate the three-hour rolling average.

e. The calibration of all thermocouples and other temperature sensors shall be verified at least once every three months.

f. The permittee shall conduct an inspection of the components of the combustion system of each kiln at least once per year.

IV. RECORDKEEPING REQUIREMENTS.

 # 022 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Monitoring requirements.

The permittee must obtain a certification from each supplier for each shipment of fly ash to be used in the kilns received to demonstrate that the fly ash was not derived from a source in which the use of activated carbon, or any other sorbent, is used as a method of mercury emissions control. The certification shall include the name of the supplier and a signed statement from the supplier confirming that the fly ash was not derived from a source in which the use of activated carbon, or other sorbent, is used as a method of emission control.

 # 023 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1355]

Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Recordkeeping requirements.

[Additional authority for this condition is derived from 40 CFR Section 63.10]

The permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR Part 63, Subpart LLL recorded in a form suitable and readily available for inspection and review. The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. The files may be maintained on microfilm, on a computer, on floppy disks, on magnetic tape, or on microfiche.

SECTION E. Source Group Restrictions.

 # 024 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1355]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Recordkeeping requirements.

The permittee shall maintain all records required for the continuous monitoring systems.

 # 025 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1355]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Recordkeeping requirements.

[Additional authority for this condition is derived from 40 CFR 63.10]

The permittee shall maintain records for each affected source as required by 40 CFR Section 63.10(e); and

a. All documentation supporting initial notifications and notifications of compliance status.

b. All records of applicability determinations, including supporting analyses.

c. If the permittee has been granted a waiver, any information demonstrating whether a source is meeting the requirements for the waiver of the record keeping or reporting requirements.

 # 026 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6]
Subpart A--General Provisions
Compliance with standards and maintenance requirements.

[Additional authority for this condition are derived from 40 CFR Sections 63.1353 & 63.1354]

When actions taken by the permittee during a start-up, shutdown or malfunction (including actions taken to correct a malfunction) are not consistent with the procedures specified in the facility's start-up, shutdown and malfunction plan, the permittee shall keep records of the actions taken for the event and shall report such actions within 2 working days after commencing action inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 40 CFR Part 63 (unless the permittee makes alterative reporting arrangements, in advance).

 # 027 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6]
Subpart A--General Provisions
Compliance with standards and maintenance requirements.

[Additional authority for this condition is derived from 40 CFR Sections 63.1353 & 63.1354]

When actions taken by the permittee during a start-up, shutdown and malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the facility's start-up, shutdown and malfunction plan, the permittee shall keep records for that event that demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of record keeping, that confirms conformance with the start-up, shutdown and malfunction plan for the event. The permittee shall keep records of these events including records of the occurrence and duration of the start-up, shutdown or malfunction of the operation and each malfunction of an air pollution control device. The permittee shall confirm that actions taken during the relevant reporting period during periods of start-up, shutdown and malfunction were consistent with the affected source's plan in the semiannual SSM report.

SECTION E. Source Group Restrictions.

V. REPORTING REQUIREMENTS.

 # 028 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1354]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Reporting requirements.

[Additional authority for this condition is derived from 40 CFR Section 63.10]

The permittee shall submit a summary report semiannually to the Department containing the following information for these sources:

a. The company name and address of the affected source.

b. An identification of each hazardous air pollutant monitored at the affected facility.

c. The beginning and ending dates of the reporting period.

d. A brief description of the process units.

e. The emission and operating parameter limitations specified in the relevant standards.

f. The monitoring equipment manufacturers and model numbers.

g. The date of the latest CMS certification or audit.

h. The total operating time of the affected source during the reporting period.

i. An emission data summary (or similar summary if the permittee monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to start-up/shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

j. A CMS performance summary (or similar summary if the permittee monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percentage of the total source operating time during the reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance /quality control calibrations, other known causes, and other unknown causes.

k. A description of any changes in the CMS, processes, or controls since the last reporting period.

l. The name, title, and signature of the responsible official who is certifying the accuracy of the report.

m. The date of the report.

n. A statement that during each start-up, shutdown and malfunction the sources and air pollution control equipment were operated in accordance with the start-up, shutdown and malfunction plan.

o. The occurrence and duration of each malfunction of any control devices and CEMs and the responses taken.

p. All exceedances of the maximum inlet gas temperature limits for the particulate matter control device on the kilns.

q. All failures to calibrate thermocouples and other temperature sensors as required by 40 CFR Section 63.1350(f)(7).

SECTION E. Source Group Restrictions.

r. The results of any combustion system component inspections conducted within the reporting period.

s. All failures to comply with any provision of the operation and maintenance plan developed by the permittee.

 # 029 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1354]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Reporting requirements.

[Additional authority for this condition is derived from Section 63.10]

If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than one percent of the total operating time for the reporting period, and the CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, only a semiannual summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Department. The contents of a semiannual summary report are described in 40 CFR Section 63.10 (e)(vi). The contents of a full excess emissions and continuous monitoring system report are found in 40 CFR Section 63.10 (e)(v).

VI. WORK PRACTICE REQUIREMENTS.

 # 030 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1344]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Operating limits for kilns and in-line kiln/raw mills.

The permittee shall implement good combustion practices (GCP) designed to minimize total hydrocarbons from fuel combustion. GCP include training all operators and supervisors to operate and maintain the kilns and the pollution control systems in accordance with good engineering practices. The training shall include methods for minimizing excess emissions.

The permittee shall have the GCP in place by December 20, 2007.

 # 031 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1344]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Operating limits for kilns and in-line kiln/raw mills.

All kilns must remove (i.e. not recycle to the kiln) from the kiln system sufficient cement kiln dust to maintain the desired product quality.

 # 032 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]
Subpart LLL -- National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Monitoring requirements.

If the facility opts to use a fly ash derived from a source in which the use of activated carbon, or any other sorbent, is used as a method of mercury emissions control and demonstrate that the use of this fly ash does not increase mercury emissions from the kiln, the permittee must obtain daily fly ash samples, composites monthly, and analyze the samples for mercury.

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

 # 033 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1340]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Applicability and designation of affected sources.

As per 40 CFR Section 63.13, all requests, reports, applications, submittals and other communications shall be sent to both EPA and the Department. The EPA copies shall be forwarded to:

Director of Air Protection Division
US EPA, Region III
1650 Arch Street
Philadelphia, Pa 19103-2029

 # 034 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1340]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Applicability and designation of affected sources.

The on-site non-metallic mineral crushing plant is not subject to Subpart LLL of the National Emission Standards for Hazardous Air Pollutants for Portland Cement Manufacturing Facilities.

 # 035 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1340]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Applicability and designation of affected sources.

The facility is subject to 40 CFR Part 63, Subpart LLL, Hazardous Air Pollution from Portland Cement Plants and shall comply with all applicable provisions of the Subpart. The affected sources are all of those sources listed in this Group Source. The facility is also subject to 40 CFR Part 63, Subpart A, as indicated in Table 1 of Subpart LLL as per 40 CFR Section 63.1342.

 # 036 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Monitoring requirements.

With the issuance of this permit the Operations & Maintenance Plan is approved as amended on August 13, 2004.

 # 037 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1350]
Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry
Monitoring requirements.

The permittee may submit an application for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of 40 CFR Part 63.

a. Averaging periods other than those specified in 40 CFR Part 63, Subpart LLL, will not be approved unless the permittee documents, using data or information , that the longer averaging period will ensure that emissions do not exceed levels

achieved during the performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

b. If the application to use an alternate monitoring requirement is approved, the permittee must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

c. The permittee shall submit the application for approval of alternate monitoring requirements no later than the notification of the performance test. The application must contain the information specified below:

1. Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach;

2. A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the averaging period for the limit, and the limit is to be calculated; and

3. Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant standard.

c. The permittee will be notified of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. An alternative monitoring plan will not be approved unless it will provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternative monitoring application, the permittee will be provided with:

1. A notice of the information and findings upon which the intended disapproval is based; and

2. A notice of opportunity for the permittee to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for the permittee to provide additional supporting information.

 # 038 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.1356]

Subpart LLL – National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

Exemption from new source performance standards.

The sources at the facility are no longer subject to the requirements of 40 CFR Part 60, Subpart F, Standards of Performance for New Stationary Sources.

 # 039 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6]

Subpart A--General Provisions

Compliance with standards and maintenance requirements.

The permittee must develop a written startup, shutdown and malfunction plan that describes, in detail, procedures for operating and maintaining the sources during periods of startup, shutdown and malfunction; and a program of corrective action for malfunctioning sources, air pollution control and monitoring equipment used to comply with the standard. The startup, shutdown and malfunction plan does not need to address any scenario that would not cause the sources to exceed an applicable emission limitation in the relevant standard.

When actions taken by the permittee during a startup or shutdown (and the startup or shutdown causes the sources to exceed any emission limitation in the relevant emission standard), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown and malfunction plan, the permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed.

SECTION E. Source Group Restrictions.

These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown and malfunction plan and describes the actions taken for that event. In addition, the permittee must keep records of these events as specified in paragraph 40 CFR 63.10(b), including records of the occurrence and duration of each startup, shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown and malfunction report required in 40 CFR Section 63.10(d)(5).

The permittee must develop a startup, shutdown and malfunction plan that conforms to the provisions of this Condition, but may do so by citing to the relevant parts of 40 CFR Section 63.6(e). However, any revisions made to the startup, shutdown and malfunction plan in accordance with the procedures established by 40 CFR Section 63.6(e) shall not be deemed to constitute permit revisions under 40 CFR Part 70 or Part 71 and the elements of the startup, shutdown and malfunction plan shall not be considered an applicable requirement as defined in 40 CFR Section 70.2 and Section 71.2. Moreover, none of the procedures specified by the startup, shutdown and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in Section 504(f) of the Act.

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG06 CLINKER COOLERS

Group Description: Clinker Coolers (2)

Sources included in this group:

ID	Name

No Sources exist for this Group.

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the particulate (Method 5) emissions from each cooler to 0.0147 grains per dry standard cubic foot.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Method 201A & 202) emissions from each cooler to 0.0125 grains per dry standard cubic foot.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals of the following:

a. Hours of operation of each cooler
b. Emissions of particulate and PM-10.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The coolers and associated air cleaning devices are subject to the following conditions:

a. The permittee shall operate the coolers in a manner as not to cause air pollution.

SECTION E Source Group Restrictions.

b. The permittee shall operate and maintain the coolers in a manner consistent with good operating and maintenance practices.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG07 FUGITIVE SOURCES

Group Description: Process Sources without Stacks (fugitive)

Sources included in this group:

ID	Name
180	RAW MATERIAL (SLAG/GYPSUM) TRANSFER
181	SYNTHETIC GYPSUM SYSTEM
182	COAL HANDLING SYSTEM
183	TIRE HANDLING SYSTEM
220	CLINKER HANDLING & STORAGE

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals of the following:

a. Tons of material handled by each source
b. Emissions of particulate and PM-10 for each source

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG08 STORAGE PILES

Group Description: Storage Piles (fugitive)

Sources included in this group:

ID	Name
177	RAW MATERIAL DRYER (SLAG)
182	COAL HANDLING SYSTEM
183	TIRE HANDLING SYSTEM
220	CLINKER HANDLING & STORAGE

I. RESTRICTIONS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall record the estimated emissions from the plant storage areas on an annual basis (calendar year). These records shall include the factors used to make the estimate.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain an inventory of all storage areas as the facility. This inventory shall be updated at a minimum annually (January of each year). This inventory shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall take the following actions when inspections of the plant find the fugitive particulate emissions from any of the storage areas:

a. Investigate the source of the emissions.
b. Initiate the appropriate operating procedures.
c. Record the problem, results of the investigation, corrective actions taken and the results.

SECTION E. Source Group Restrictions.

VII. ADDITIONAL REQUIREMENTS.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

This Group Source includes all storage areas at the facility for raw materials, fuels and product that is not located within a building.

***** Permit Shield in Effect. *****

SECTION E. Source Group Restrictions.

Group Name: SG09 STACK SOURCES

Group Description: Process Sources with Stacks

Sources included in this group:

ID	Name
210	KILN FEED
220	CLINKER HANDLING & STORAGE
230	CEMENT STORAGE
240	BULK LOADING
250	CEMENT PACKAGING PLANT

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the particulate (Method 5) emissions from the sources in this Source Group to 0.0118 grains per dry standard cubic foot.

 # 002 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall limit the PM-10 (Method 201A & 202) emissions from the sources in this Source Group to 0.010 grains per dry standard cubic foot.

Except for the following sources: Kiln Feed Silos #1 through #4 (Source 210/115 & 116) - 0.0085 grains per dry standard cubic foot.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 003 [25 Pa. Code §127.441]

Operating permit terms and conditions.

The permittee shall maintain monthly and 12-month rolling totals of the following:

a. Hours of operation of each source
b. Emissions from each source:

1. Particulate
2. PM-10

c. Amount of clinker handled by the clinker handling source (Source 220)

SECTION E. Source Group Restrictions.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

 # 004 [25 Pa. Code §127.441]

Operating permit terms and conditions.

Equipment (a differential manometer or equivalent, as approved by the Department), shall be provided and maintained so that at any time the pressure drop across each fabric collector of the Cement Packaging Plant can be measured.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this permit including Section B (Title V General Requirements).

***** Permit Shield in Effect. *****

SECTION F.. Alternative Operation Requirements.

No Alternative Operations exist for this Title V facility.

SECTION G. Emission Restriction Summary.

No emission restrictions listed in this section of the permit.

SECTION H. Miscellaneous.

001

This permit incorporates the plan approvals:

a. No. 06-05002B issued on March 15, 2005,
b. No. 06-05002C issued on July 12, 2004,
c. No. 06-05002D issued on October 31,2005,
d. No. 06-05002E issued on January 6, 2005, and
e. No. 06-05002F issued on April 27, 2005.

002

There are no applicable emission, testing, monitoring, record keeping, or reporting requirements for the following sources:

a. Water treatment tower
b. Miscellaneous combustion sources including, but not limited to the following:

1. 2 compressors
2. 4 welding units
3. 4 water pumps
4. 3 small generators
5. 13 small heaters

#003

The fuel "Special A" as used in the cement kilns (sources 121 and 122) is any Waste Derived Solid Fuel (WDSF) approved by the Department. This currently includes only whole tires and waste wood.

#004

The fuel "Reclaim Oil" as used in the raw mills heaters and cement kilns (sources 109, 110, 112, 121 and 122) is any Waste Derived Liquid Fuel (WDLF) approved by the Department. It is also known as Spec 4 Oil.

#005

The fuel "Bituminous Coal" as used in the kilns (sources 121 and 122) is bituminous coal, but various amounts of petroleum coke are also included in the fuel to improve the quality of the fuel at times. The coal/coke mixture shall be considered one fuel.

#006

The term "clinker" as used in the material processed in the finish mills (sources 159, 160 and 162) refers to the following items:

a. Cement clinker
b. Calcium sulfate
c. Stone
d. Mineral admixtures
e. Grinding aids

#007

SECTION H. Miscellaneous.

The source 200 (Raw Material Handling) includes the following sources:

a. 103 Limestone Crushing & Screening
b. 105 Rock Silo West
c. 106 Rock Silo East
d. 107 Room 1 & 2 Belt 1
e. 108 Room 3 Belt 2
f. 410 Rock Silo Heaters West & East
g. 201 Two Limestone unloading Sites
h. 202 Iron Ore Unloading Site and Storage
i. 203 Limestone Storage (outside) and Reclaim
j. 204 Associated Conveying and Feed Systems for Limestone and Other Raw Materials
k. 205 Other Raw Material Unloading Site
l. 206 Other Raw Material Storage

#008

The source 210 (Kiln Feed) includes the following sources:

a. 113 Kiln Feed Blending #1
b. 114 Kiln Feed Blending #2
c. 115 Kiln Feed Silos 1 & 3
d. 116 Kiln Feed Silos 2 & 4
e. 117 Kiln Feed Pumps 1 through 3 DC5
f. 119 Kiln Feed Conveying (3) #7 (inside)
g. 120 Kiln Feed Conveying (3) #8 (inside)

#009

The source 220 (Clinker Handling and Storage) includes the following sources:

a. 301 Clinker Handling Apron Conveyor (C301/S301)
b. 302 Clinker Handling Apron Conveyor & Silo (C302/S302)
c. 303 Silo Distribrution (C303/S303)
d. 306 Clinker Handling from Bulk Storage A (C30/S30)
e. 304 Clinker Handling from Bulk Storage B (C304/S304)
f. 158 Clinker Handling Silo Withdrawal G10
g. 305 Additive Distribrution C305/S305)
h. 307 Clinker Handling to Bulk Storage (C50/S50)
i. 172 Clinker Handling Silo Withdrawal G10A
j. 280 Outdoor Clinker Handling & Storage

#010

The source 230 (Cement Storage) includes the following sources:

a. 164 Cement Storage Silos 14 through 21
b. 165 Cement Storage Silos 22 through 32
c. 166 Cement Storage Silos 33 through 43

#011

SECTION H. Miscellaneous.

The source 240 (Cement Bulk Loading) includes the following sources:

a. 144 Bulk Loading Scale 1
b. 145 Bulk Loading Scale 2
c. 170 Bulk Loading Scale 4

#012

The source 250 (Cement Packaging Plant) includes the following sources:

a. 173 Cement Packaging System C
b. 174 Cement Packaging System A
c. 175 Cement Packaging System B

#013

The source 177 (Raw Material Dryer) includes the following sources:

a. Raw Material (Slag) Dryer
b. Bucket Elevator
c. Various Conveyors
d. Slag Pile

#014

The source 180 (Raw Material Transfer) includes the following sources used to unload and transfer various raw materials (slag, gypsum, ect.):

a. Unloading Hopper
b. Vibratory Feeder
c. Two Bucket Elevators
d. Belt Conveyors

#015

The source 181 (Synthetic Gypsum) includes the following sources:

a. Unloading Hopper
b. Various Conveyors

#016

The Source 182 (Coal System) includes the following sources:

a. Coal Unloading
b. Covered Coal Storage
c. Coal Screen & Crusher
d. Two Coal Mills
e. Two Coal Bins & Weigh Feeders
f. Various Coal Conveyors

SECTION H. Miscellaneous.

#017

The source 183 (Tire Handling System) includes the following sources:

a. Tire Unloading Site
b. Tire Singulator
c. Tire Conveying System
d. Tire Injection System
e. Tire Fuel Heater

#018

The capacities and throughputs listed in the Site Inventory List in Section A and Headers of the sources in Section D, are for information only and are not operating limits unless there are specific conditions within the permit that sets limits on a source.

****** End of Report ******