

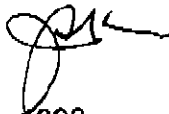
KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
 GAINESVILLE, FLORIDA 32609
 352/377-5822 - FAX/377-7158

MEMORANDUM

VIA FAX

TO: Al Linero

FROM: John Koogler 

DATE: November 25, 1998

SUBJECT: CSR Rinker Materials Corporation
 Miami, Dade County, Florida
 Cement Plant Modernization Project

The purpose of this memo is to confirm our telephone conversation of this date regarding the permit for the CSR Rinker Materials Corporation (Rinker) cement plant modernization project. Based on our meeting of October 27, 1998, and our telephone conversation of this date, I recognize that the Department is under a time constraint to publish an Intent to Issue by November 30, 1998. Recognizing this, I want to confirm some of the matters that I felt were resolved during our October 27, 1998, meeting and to reiterate a couple of points we discussed I during our telephone conversation. I also want to emphasis that our comments in my letter to you dated October 26, 1998, should be considered as relevant.

First, I wold like to express our appreciation for the effort you and your staff have expended on this project and for your willingness to consider alternative fuels and feed materials discussed and/or proposed by Rinker.

Tire Derived Fuel

Rinker has proposed a 40 percent heat input limit on tire derived fuel. This 40 percent heat input limit is presently a condition in Permit 250014-002-AC. Following our meeting on October 27, 1998, Rinker was to provide the Department with material supporting the fact that tire derived fuel could provide up to 40 percent heat

input to Portland cement plants. The tests that were conducted at Rinker in January 1993 were conducted with tire derived fuel providing 30 percent of the heat input to cement Kiln 1 (a wet process cement kiln). Other reports that I have reviewed subsequent to our meeting indicate that 30 percent appears to be the upper limit on tire derived heat input at cement plants under published test conditions. ←

The 40 percent heat input limit requested by Rinker expands this envelope but, in my professional opinion, but not unreasonably so. As I suggested during our telephone conversation, we prefer to have the maximum heat input limit from tire derived fuel at 40 percent in the revised permit; with the condition that Rinker conduct a test demonstrating compliance with all applicable permit conditions at this maximum tire derived feed rate. If Rinker conducts a compliance test with tire derived fuel providing 40 percent of the heat input and demonstrates compliance with all applicable conditions, the matter is resolved. On the other hand, if Rinker conducts a compliance test with tire derived fuel providing less than 40 percent of the heat input, it is typical of Department permits to limit the operation of a facility to 110 percent of the rate (heat input rate) at which the compliance test was conducted.

Wording the revised permit in this manner will give Rinker the opportunity to expand the envelope of demonstrated tire derived fuel heat input rates and still provide the Department reasonable assurance that the plant will not operate at a heat input rate above which compliance was demonstrated.

Temperature Limit While Burning Tire Derived Fuel

It is my understanding that the kiln exit temperature while burning tire derived fuel will be deleted as a permit condition. The deletion of this temperature limit is based on the fact that tire derived fuel will be fired to the kiln in the general location shown in my October 26, 1998, letter to you. The firing of tire derived fuel and other supplemental fuels at this location will be through a double air lock feed system similar to what is used in other cement plants in Florida. Firing the supplemental fuel at this location will introduce material directly into the location where spontaneous combustion and complete burn-out will occur in a matter of seconds. The supplemental fuels will also be burned at a location where the precalciner burner will act as a "afterburner".

Source of Petroleum Contaminated Supplemental Fuel Materials

It is my understanding that Specific Condition B.5(1)c. In Section III of Permit 0250014-002-AC will be changed to allow the "... Combustion of non-hazardous

solid waste, oil filters, booms and rags from spill cleanup generated on-site" and off-site. As stated during our October 27, 1998, meeting, it has always been the intent of Rinker to use off-site generated materials of the nature described in this condition.

Supplemental Fuels

Based upon our October 27, 1998, meeting, it is my understanding that the supplemental fuel materials that are presently included in Permit 0250014-002-AC will not change. It is my understanding that these materials that have already been permitted are acceptable both to the Department and to DERM.

I have general notes on heat input limits from our October 27, 1998, meeting that indicate that the Department is willing to limit the use of supplemental fuels on a "heat input" basis rather than on a "weight input" basis. I also note that the "heat input" limit would be based on a 30 day rolling average. The 30 day rolling average concept is contained in a set of general Allowable Fuel Conditions for Municipal Waste Combustors faxed to us on April 30, 1998, by Joe Kahn (copy attached). Rinker would appreciate it if supplemental fuel use was based on heat input and if the heat input was based on a 30 day rolling average basis.

The final note I have on these supplemental fuels is that there would be a 30 percent heat input limit for items for which Rinker can provide reasonable assurance. In other words, if Rinker can provide test data or other supporting materials demonstrating that the use of supplemental fuel materials to provide up to 30 percent of the heat input was practical, the Department would consider 30 percent as an upper limit. For other supplemental fuel materials, such as addressed by the Municipal Waste Combuster memo, I have a note that the Department will consider allowing these materials to provide up to five percent of the heat input on a 30 day rolling average basis.

Pharmaceutical Byproducts as a Supplemental Fuel

It is my understanding, based on our telephone conversation of this date, that you are of the opinion that pharmaceutical byproducts are not appropriate as a supplemental fuel at this point in time. It is my understanding that DERM has also indicated that they would not approve the use of pharmaceutical byproducts as a supplemental fuel at this time. We may continue to pursue this matter during the comment period on the revised permit. For your information, I have attached a paper just received from Rinker entitled, *Pharmaceutical Waste as a Fuel in a*

Cement Kiln. I have also included a single page summarizing the types of pharmaceutical waste materials that Rinker might consider.

* * * *

Again, we appreciate the time and effort you and your staff have committed to this project. We also thank you for the consideration of the comments that I have incorporated herein.

[Handwritten signature]
c: Mr. Michael Vardeman, Rinker

Post-It Fax Note	7671	Date	5/11/98	Pages	3
To	Steve Cullen	From	Joe Kahn		
Co./Dept	KOUGLER	Co.	DEP		
Phone #		Phone #	850/921-9519		
Fax #	352/377-7158	Fax #	850/922-6979		

FINAL, Allowable Fuel Conditions for MWCs

X.y Fuels

The primary fuel for the facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), Florida Statutes (1995).
(Rule 62-4.070(3), F.A.C., and request of applicant)

X.y.1 Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described below. However, the facility shall not burn:

- (a) those materials that are prohibited by state or federal law;
- (b) those materials that are prohibited by this permit;
- (c) lead acid batteries;
- (d) hazardous waste;
- (e) nuclear waste;
- (f) radioactive waste;
- (g) sewage sludge;
- (h) explosives.

X.y.2 The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- (a) well mixed with MSW in the refuse pit; or
- (b) alternately charged with MSW in the hopper.

X.y.3 The facility operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below (X.y.6. and X.y.7). For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual observation.

X.y.4 To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- (a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- (b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
- (c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

X.y.5 Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- (c) Wood pallets, clean wood, and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
- (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

X.y.6 Subject to the conditions and limitations contained in this permit, waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition X.z below.

→ X.y.7 Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition X.z below.

- (a) Construction and demolition debris.
- (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.

- (d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- (e) Waste materials that:
- (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
 - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- (f) Waste materials that contain oil from:
- (i) the routine cleanup of industrial or commercial establishments and machinery; or
 - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
- (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

X.7 Segregated Solid Waste Record Keeping: The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition X.y.6 and X.y.7:

Each segregated load of non-MSW materials, that is subject to the percentage weight limitations of specific condition X.y.6 and X.y.7, which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

[Rule 62-4.070(3), F.A.C., and request of applicant]

Pharmaceutical Waste as a Fuel in a Cement Kiln

There have not been any specific tests conducted on a cement kiln using pharmaceutical waste as fuel. We do have, however, a large database of testing conducted on cement kilns using hazardous waste as a fuel, all of which were successful in demonstrating that a cement kiln meets or exceeds the regulatory requirements. The EPA has concluded that the cement kiln is an ideal environment for the destruction of hazardous waste. I am not intending to group pharmaceutical waste with hazardous waste. What I would like to demonstrate is that cement kilns can and do handle the constituents of the hazardous waste fuels, and if the cement kiln can adequately destroy the constituents of the hazardous waste fuels, then it should easily destroy the nonhazardous constituents in the pharmaceutical waste materials. There are two concepts which must be defined with respect to the cement kiln. These concepts are "destruction" and "energy recovery." There are several important ideas on how these concepts relate to a cement kiln that must be understood before we continue this discussion.

- First, the cement kiln is first and foremost used to make cement.
- Waste materials are used as a supplemental fuel to reduce the volume of coal/coke required to make clinker.
- To make clinker, a cement kiln must operate within a well defined range of temperatures.
- These thermodynamic process limits do not change with the introduction of waste fuels. Finally, for the purpose of comparison these temperature limits do not vary significantly from kiln to kiln.

When a cement kiln uses any alternate fuel, it is used as a fuel. Its effect on the kiln is viewed in terms of its effect on the cement manufacturing process. The alternate fuel feed is controlled based upon its operational effect. The bottom line is that the alternate fuel feed is controlled based upon its ability to maintain production of quality cement. For this reason, the cement kiln looks at and manages the input of waste materials as energy recovery.

From a regulator perspective, we are interested in destruction. We want to assure that the waste material is destroyed; that none of the dangerous components (drugs contained within the waste) are released into the environment. This is the reason for examining the results of testing at kilns using hazardous waste.

Before a cement kiln can be permitted to use hazardous waste fuels, it must undergo a trial burn in which it is fed specific compounds and its ability to destroy these compounds is determined. By definition, a kiln is considered successful if it can destroy 99.99% of these compounds. These compounds, called POHCs, or Principal Hazardous Organic Constituents, have been grouped into two classifications. The first classification is called the Dayton List. It was compiled by the University of Dayton Research Institute. In this list the compounds are ranked by their thermal stability. The lower the number, the more stable the compound is and the harder it is to destroy. The conditions necessary to destroy a specific compound should easily destroy any compound lower on the list. The following table shows four POHCs used in multiple tests and the DRE, or Destruction and Removal Efficiency, demonstrated in these tests. The table also includes several compounds that could be found in pharmaceutical wastes and their comparative ranking.

Table 1
Dayton List of Thermal Stability

Compound	Ranking	Demonstrated DRE
1,2-Dichlorobenzene	23-24	99.9999%
1,2,4-Trichlorobenzene	26-27	99.9999%
Tetrachloroethene	36	99.9999%
Vinyl Chloride (from PVC packaging)	60	
Isobutyl Alcohol	112	
1,1,1-Trichloroethane	201	99.9999%
Saccharin	231	
Nicotine	273	
Nitroglycerine	281	

The second list ranks these compounds by their heat of combustion. Compounds with low heats of combustion are harder to destroy because they add less energy to the system. The conditions necessary to destroy a compound with a low heat of combustion should easily destroy compounds that have higher heats of combustion. The second table lists these same compounds with respect to their heats of combustion.

[Handwritten notes]

Table 2
Heat of Combustion Ranking

Compound	Ranking (kcal/gram)	Demonstrated DRE
Tetrachloroethene	1.19	99.9999%
1,1,1-Trichloroethane	1.74	99.9999%
1,2,4-Trichlorobenzene	3.40	99.9999%
Nitroglycerine	3.79	
Vinyl Chloride (From PVC packaging)	4.45	
Saccharin	4.49	
1,2-Dichlorobenzene	4.57	99.9999%
Isobutyl Alcohol	8.62	
Nicotine	8.92	

By studying these tables, it can be seen that a cement kiln has no problem destroying the organic constituents of a waste fuel. As additional evidence of the cement kiln's ability to destroy these materials, it should be noted that the EPA did not require this DRE testing as part of its original Certification of Compliance testing required of all cement kilns using hazardous waste. This is due to the conditions within the cement kiln which are required to make cement. The DRE data in these tables comes from kilns which did the testing to be conservative or as part of demonstrating other parameters within the kiln. When comparing the pharmaceutical waste materials to the difficult to destroy POHCs, there should be no question about the kiln's ability to destroy the components of pharmaceutical waste.

Up to this point, we have been focusing on the specific components of the pharmaceutical waste and how we can have confidence in their destruction. I want to shift the focus from the specific components which we are confident we can destroy to the overall nature of the pharmaceutical waste. What does this material look like in general, and how does it compare to coal or tires? In physical form, it will be boxed, bagged or baled into discrete fuel charges. The question is, how will this material differ from coal or tires? Because of the many compounds involved as part of the waste material, and even more compounds associated with the coal and tires, meaningful comparison between the two would be difficult, if not impossible. A look at the elemental analysis is much more useful. If we look at the elemental components of each fuel, particularly those that are associated

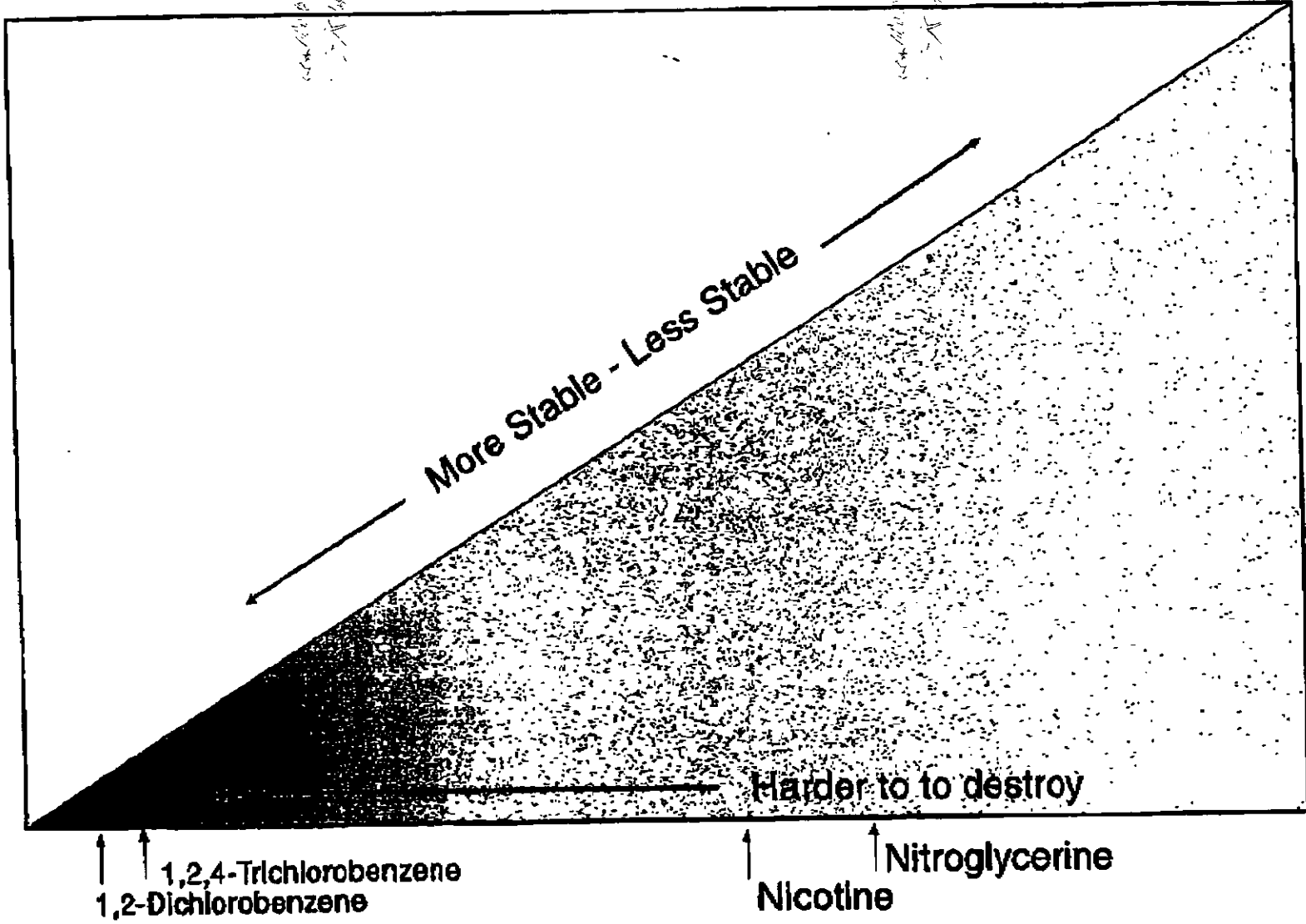
with combustion, we have a better method of comparing each fuel. The elements of particular interest are nitrogen, sulfur, carbon, hydrogen, oxygen, and chlorine. Two important physical analyses that are normally included in this group are the heating value and the ash. This analysis is commonly call the "ultimate analysis," or "ultimate fuel analysis." The following table compares these parameters of ultimate analysis for several fuels.

Table 3
A Comparison of the Ultimate Analysis
for Several Fuels

Element	Tire Derived Fuel	Western Coal	MSW/RDF
Nitrogen	<0.1 - 0.8%	0.3 - 1.4%	0.3 - 0.8%
Sulfur	0.9 - 2.1%	0.4 - 1.0%	0.1 - 0.4%
Carbon	64 - 87%	30 - 72%	27 - 33%
Hydrogen	5 - 7%	4 - 5%	4%
Oxygen	1 - 5%	9 - 26%	26%
Ash	2 - 25%	8 - 11%	13 - 20%
Chlorine	0.07 - 0.2%	0.04%	0.3 - 0.8%
Heating Value	14000 BTU/lb	12500 BTU/lb	6000 BTU/lb

The Municipal Solid Waste/Refuse Derived Fuel (MSW/RDF) should be very similar to the pharmaceutical waste fuel that Rinker is proposing. It should contain many of the same components, like paper and plastic packaging materials. Due to the volume of packaging and support materials, the pharmaceutical waste may actually be higher in plastic, which would increase the BTU and carbon values and decrease the ash values. When you look at this table, the pharmaceutical waste does not look much different than the coal or tires. Once we can establish that the pharmaceutical waste or any other non-hazardous waste falls within ranges that we normally see in other fuels, we will know what to expect when it burns and how it will behave in the kiln. Because it is essentially the same as our other fuels, it will burn like our other fuels and the emissions will be essentially like our other fuels.

Dayton List of Thermal Stability



SUMMARY OF WASTE MATERIALS FOR INCINERATION

1. All material is solid wastes, and all listed materials are to be considered conforming wastes.
 - Reject drug products
 - Reject drug raw materials
 - Reject product components
 - Reject intermediate products
 - Reject final products
 - Returned products
 - Dust collector wastes
 - Dust collector cartridges
 - Cartons/cardboard
 - Release QA/QC samples
 - Empty fiber drums
 - Empty plastic drums
 - Plastic liners
 - Miscellaneous contaminated material handling supplies
 - Equipment cleaning rags (not contaminated with RCRA regulated solvents)
 - Rolled PVC
 - Release paper
 - Packaging wastes
 - Polymer heels (including filters and hoses)
 - Waste from wastewater treatment

2. The active substances in the waste materials are limited to the following:
 - Nitroglycerin (Nitro-Dur)
 - Cefibutin (Cedax)
 - Phentolamine Mesylate (VASOMAX)
 - Loratidine (Claritin)
 - Acetaminophen (Corcidin & Corcidin D)
 - Dexamethasone (Naquasone Boluses)
 - Trichloromethiazide (Naquasone Boluses)
 - Gyne-Lotrimin

3. Nitro-Dur and Cedax wastes come from a blending and packaging operation. All other production wastes come from packaging and repackaging operation (not manufactured or blended).

4. Excipient ingredients include:
 - Corn Starch
 - Povidone
 - Magnesium Stearate
 - Lactose (anhydrous or monohydrate)
 - Phenylpropanolamine Hydrochloride (in lieu of starch in Corcidin D tablets)
 - Chlorpheniramine Maleate
 - Yellow Dye No. 5
 - Microcrystalline cellulose



Department of Environmental Resources Management
33 S.W. 2nd Avenue
Miami, FL. 33130-1540

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SEND TO:

Name: AL LINERO

Company/Department: F DEP

Phone Number: (850) 488-1344

Fax Number: (850) 922-6979

Message: Followup is the fax from
Steve Cullen dated 9/21/98, which
accurately reflects the changes language we
agreed on with Rinkler. Bear in mind too,
that the condition ~~is~~ 2)(i) is explicit and limited
to what non-hazardous industrial byproduct materials
may be burned as supplemental fuel. Call me
FROM: if you have questions/comments.

Name: Patrick Wong

Division/Section: Chief, Air Quality Mgmt. Division

Phone Number: (305) 372-6925

Fax Number: (305) 372-6954

Date: 10/26/98

Number of Pages (including this one): 4



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

October 29, 1998

Mr. Patrick Wong, Chief
Air Quality Management Division
Dade County Department of
Environmental Resources Management
33 Southwest 2nd Avenue - Suite 800
Miami, Florida 33130-1540

Re: CSR Rinker Materials Corporation
Cement Plant Modernization Project

Dear Mr. Wong:

Enclosed for your review and comment is a letter we received from Rinker in response to issues raised in our letter of May 5, 1998.

Please provide your comments for the above mentioned project along with any specific conditions you propose so we can consider them for inclusion in the draft permit modification.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at (850)922-6979.

If you have any questions, please contact me at (850)921-9523 or Teresa Heron at (850)921-9529.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/kt

Enclosures

cc: I. Goldman, SED



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

October 29, 1998

Mr. Jose Gonzales, P.E., Chief
Pollution Control Division
Hazardous & Solid Waste Section
Dade County Department of
Environmental Resources Management
33 Southwest 2nd Avenue - Suite 800
Miami, Florida 33130-1540

Re: CSR Rinker Materials Corporation
Cement Plant Modernization Project

Dear Mr. Gonzales:

Enclosed for your review and comment is a letter we received from Rinker in response to issues raised in our letter of May 5, 1998. Please provide your comments for the above mentioned project as well as specific conditions you propose so we can consider them for inclusion in the draft permit modification.

Please note that this air permit action addresses the waste that Rinker intends to co-fire as fuel in the kiln.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at (850)922-6979.

If you have any questions, please contact me at (850)921-9523, or Joe Kahn at (850)921-9519.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/kt

Enclosures

cc: Robert Johns, DERM
Vik Kamath, SED



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ■ FAX/377-7158

October 26, 1998

Mr. A.A. Linero, P.E.
Administrator, New Source Review Section
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: CSR Rinker Materials Corporation
Cement Plant Modernization Project

RECEIVED

OCT 27 1998

BUREAU OF
AIR REGULATION

Dear Mr. Linero:

This letter shall provide certain information requested in your letter dated May 5, 1998. This letter shall respond to the information request items in your letter. Certain of the ten (10) numbered items were declaratory in nature – no information is provided for those items. (attached)

1. **Response:** Declaratory – no response necessary.
2. **Response:** Declaratory – no response necessary. However, the requirement for a public notice is in question.
3. **Response:** Declaratory – no response necessary. However, CSR Rinker representatives met with DERM representatives on September 18, 1998; and resolved all outstanding pertinent issues.
4. We requested a more precise description of where and how the various wastes will be introduced within the pyroprocessing operation and provided your representatives with examples on how they should be presented.

Response: All solid supplemental fuel materials will be introduced in the vicinity of the feed shelf, as depicted on the drawing "A Typical Precalciner Cement Kiln", included as Attachment 1.

Introduction of fuel materials in this region, between the kiln feed end and the precalciner burner, will ensure that the precalciner burner will act as an afterburner. This will allow for more complete combustion of any organic compounds.

This is comparable to what are becoming standard systems throughout the industry for the handling of tires and other solid supplemental fuels. There is also a patent-pending fuel delivery system that has been evaluated by Rinker, in which solid supplemental fuels are input alongside the precalciner burner.

Rinker intends to use one of the existing types of systems where solid supplemental fuels are input below the calciner. The exact description of the supplemental fuel feed system is unavailable as it has not yet been designed.

Rinker will provide the Department with additional information as it becomes available.

5. **Response:** Declaratory – no response necessary.
6. It was pointed out by the Department that the permitted level of heat input from tires (40 percent) appears high. Our review of various references, reveals that the practical limit is approximately 25-30 percent as a maximum. Based on EPA and State of California documents on tire and tire-derived fuel burning as well as our discussions with industry experts, we suggest 25 percent is a more reasonable and supportable limit. We therefore request your concurrence in lowering the heat input from tires accordingly. Please submit the total weight (tons/hr) of tires.

Response: CSR Rinker has reasonable assurance that tires and tire-derived fuel could exceed 25 percent of the pyroprocessing system's heat input and approach 40 percent, while meeting all applicable emissions standards and producing acceptable clinker.

Rinker was told at the outset of burning tires in the existing kilns that the maximum contribution to heat input from tires was 25-30 percent, and that the typical contribution to heat input was in the 7-15 percent range. During preparation for compliance stack testing – “practicing” if you will, Rinker determined that these limits were not necessarily valid. In fact, heat input contribution from tires exceeded 45 percent during this period.

It was determined that 40 percent of heat input was easily achievable during stack testing, with an associated decrease in emissions when compared to baseline testing without tires.

Rinker believes that other cement producers are constrained in heat input from tires for various reasons, such as:

- Air flow characteristics
- Production parameters
- Primary fuel availability
- Availability of tires
- Raw material and fuel composition

Rinker sees no justification to lower their requested heat input percentage from tires, until testing can be conducted to determine the maximum percentage of heat input that can be effectively achieved and maintained.

No request was made by CSR Rinker to alter the 40 percent allowed by the construction permit. However, it is inherent that heat input contribution from tires/TDF will be limited during operation to the percentage at which compliance is demonstrated.

7. It was agreed that the kiln temperature requirement while burning tires will be deleted with the understanding that tires and tire derived fuel will not be introduced via the precalciner so that it may act somewhat as an afterburner. A protocol describing how and where tires will be introduced and the temperature needed for good combustion should be provided by RMC.

Response: Please see the response to Item 4. Tires and TDF will be introduced in the vicinity of the feed shelf. This will allow the precalciner burner to act as an afterburner.

Good combustion is, of course, a function of much more than temperature, including turbulence, residence time, and oxygen availability. As these parameters vary from kiln to kiln, the establishment of a temperature to replace the temperature requirement being removed from the permit is of little practical value.

8. It was agreed that in any case, the amount of heat input from wastes that can be characterized as solid waste needs to be limited to less than 30 percent by weight rather than by heat input. This is to insure that the kiln cannot be characterized as a municipal waste combustor per Section 129 of the Clean Air Act. Please submit the total weight (ton/hr) of the plant's fuel stream.

Response: CSR Rinker has reasonable assurance that the exemption from NSPS Subpart Eb, at 40 CFR 60.50b(p), will ensure that the kiln cannot be characterized as a municipal waste combustor per Section 129 of the Clean Air Act.

The heat content of the various supplemental fuel materials does vary, and preserving the limits in terms of heat value provides CSR Rinker with operational flexibility.

Rinker prefers to have solid supplemental fuels limited by heat input, instead of by weight. Many potentially useful materials would be unduly restricted if the permit was changed to a weight basis. An example is tires: 8-10 percent of the weight is steel belts, which become incorporated into the clinker, and reduce the need for supplemental iron from materials such as fly ash.

An additional solid supplemental fuel being considered is waste aspirin. The tablet coating (essentially sugar) has a heat value of approximately 15,000 Btu per pound, compared with approximately 13,000 Btu per pound for coal. Interestingly, 46 percent of the weight of the waste aspirin is filler material – calcium carbonate, the main raw material used in the production of cement.

Rinker can only consider alternative fuels and raw materials that will not adversely affect the quality of their clinker and the resulting cement. Rinker is continually evaluating nonhazardous industrial byproducts, seeking those materials that provide heat value or raw material needs (calcium, alumina, silica, and iron principally).

It is hoped that the permit will allow and even encourage these waste reduction and pollution prevention practices.

9. Estimates of the expected amount of waste from each category need to be provided. For example, neither RMC nor the Department would actually expect a stream of 30 percent unused diapers to be burned in the kiln. We have supplied Koogler and Associates with examples of combusting similar segregated wastes at resource recovery facilities.

Response: It is premature for CSR Rinker to provide fuel stream makeup at this time. It is reasonable to expect that any of the permitted fuels will be burned in amounts approaching the permitted amounts.

10. Regarding Comment No. 6 contained in the April 10 letter from Koogler and Associates, please provide the kiln's emission characteristics of a shutdown and malfunction and explain the type of malfunction that will be excluded from the daily average.

Response: The kiln's emission characteristics during a shutdown will be similar to those characteristics during startup when no clinker is being produced. This is because fuel combustion and kiln rotation continue during shutdown, to prevent extensive mechanical damage (especially kiln warpage) during shutdown. It is expected that the only pollutant significantly affected would be sulfur dioxide, which relies on the flow of raw material to maintain alkaline conditions in the pyroprocessing system.

To be consistent, it is requested that emissions during shutdown be addressed in the same way as emissions during startup.

Emissions data from all types of malfunctions, as described by Rule 62-210.200(179), FAC and modified by 62-210.700(4), FAC, would be excluded from the computation of the daily average. The combined definition of malfunction follows:

"Malfunction" - Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

For particulate matter, controlled throughout the plant by baghouses, malfunctions could include:

- Bag breakage
- Component or electrical failure

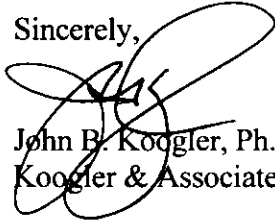
General malfunctions and excess emissions could result from:

- Fire or explosion
- Sabotage
- Human error
- Electronic and mechanical failure
- Acts of God

As the causes and effects of malfunctions vary, it is impossible to generally characterize emissions during malfunctions.

I hope that this information is responsive to your request. If I can provide any further information, please contact me.

Sincerely,

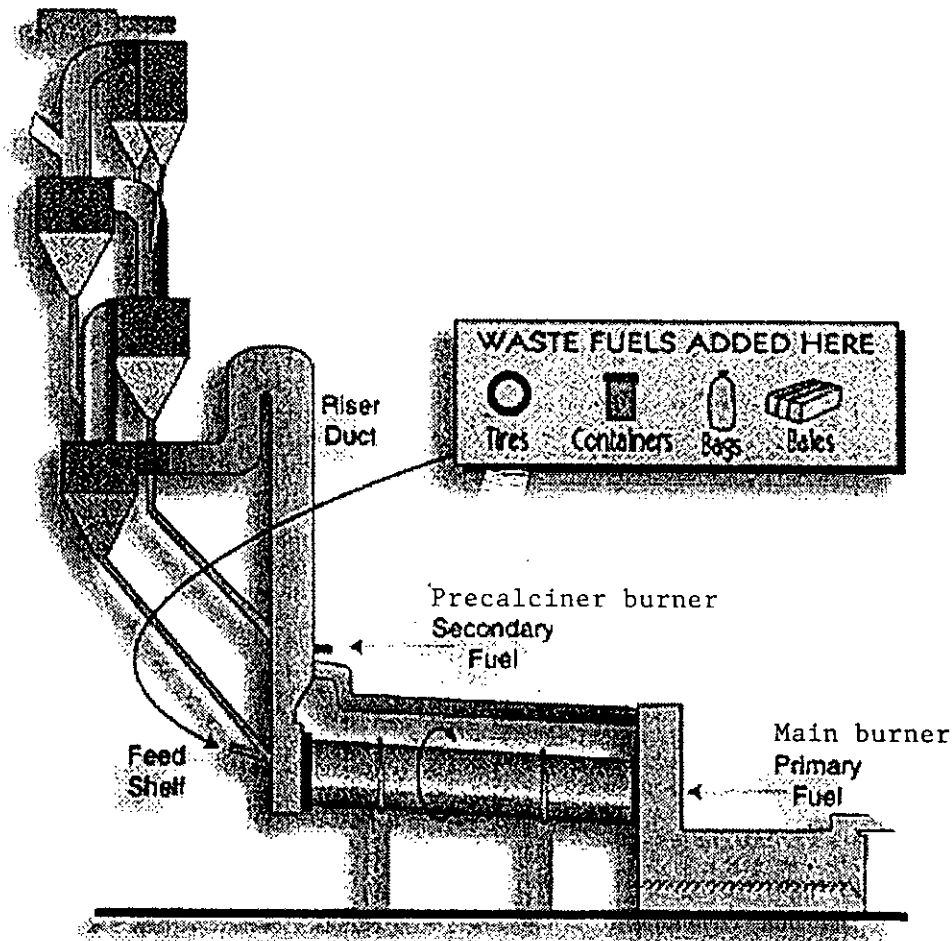


John E. Koogler, Ph.D., P.E.
Koogler & Associates

attachment

copy w/attachment to: Michael Vardeman – CSR Rinker

A TYPICAL PRECALCINER CEMENT KILN





KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

PROJECT 263-94-04

FAX TRANSMITTAL FORM

TO: PAT WONG -- Chief, DERM Air Division
MICHAEL VARDEMAN -- CSR RINKER

FAX NO: PAT WONG: (305) 372-6954

FROM: Steve Cullen *SC*

DATE: 9/21/98 SENT BY: SCC

The text being transmitted consists of 2 page(s) PLUS this one. If you do not receive all of the pages or if there are difficulties with this transmission, please call (352) 377-5822.

REMARKS: Permit language for Rinker's new plant, revised as we discussed on Friday 9/18/98.

Please review and call me with comments.

THANK YOU

This message is intended for use only by the individual to whom it has been addressed and may contain confidential or privileged information. If you are not the intended recipient, please note that the use, copying or distribution of this information is not permitted. If you have received this FAX in error, please destroy the original and notify the sender immediately at (352) 377-5822 so that we may prevent any recurrence. Thank you.

SUGGESTED PERMIT LANGUAGE

FROM:

B.5 Fuel Combustion

- 1) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:
 - a) Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.
 - b) Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.
 - c) Combustion of non-hazardous solid waste, oil filters, booms and rags from spill cleanup, generated on site. This non-hazardous solid waste material shall be used as a supplemental fuel not as a start-up fuel.
 - d) Combustion of non-hazardous solid waste (up to 30% of total heat input) may be used as supplemental fuel: unused diapers, papers products, non-chlorinated plastic waste, sewage sludge from publicly owned treatment works (POTW). This non-hazardous solid waste material shall not be used as a start-up fuel.
 - e) The combined percent heat input from tires, tire-derived fuel and solid waste shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis.

TO: (Strikethrough/underline)

B.5 Fuel Combustion

- 1) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:
 - a) Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.
 - b) Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.
 - c) ~~Combustion of non-hazardous solid waste~~, Booms and rags from clean petroleum spill cleanup, and oil filters, ~~generated on site~~. These non-hazardous materials shall be used as a supplemental fuel not as a start-up fuel. ? % ?
 - d) ~~Combustion of non-hazardous industrial byproduct materials~~ (up to 30% of total heat input) may be used as supplemental fuel: unused diapers, papers products, ~~and non-chlorinated plastic waste, sewage sludge from publicly owned treatment works (POTW)~~. These non-hazardous materials shall not be used as a start-up fuel.
 - e) The combined percent heat input from tires, tire-derived fuel and other non-hazardous supplemental fuel materials shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis. The receiving, storage, and handling of supplemental fuels shall be in accordance with all applicable Federal, State, and local regulations.

Options

- 1) 30% of total heat input : *unused diapers, paper products, non-chlorinated plastics and e)*
- 2) 5
- 3) 10 megawatts

* TO: (Without strikethrough/underlining)
B.5 Fuel Combustion

- 2) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:
- f) Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.
 - g) Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.
 - h) Booms and rags from clean petroleum spill cleanup and oil filters. These non-hazardous materials shall be used as a supplemental fuel not as a start-up fuel.
 - i) Non-hazardous industrial byproduct materials (up to 30% of total heat input) may be used as supplemental fuel: unused diapers, paper products, and non-chlorinated plastics. These non-hazardous materials shall not be used as a start-up fuel.
 - j) The combined percent heat input from tires, tire-derived fuel and other non-hazardous supplemental fuel materials shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis. The receiving, storage, and handling of supplemental fuels shall be in accordance with all applicable Federal, State, and local regulations.

10/26/08
10/26/08

August 12, 1998

VIA HAND DELIVERY

Mr. A.A. Linero, P.E., Administrator
New Source Review Section
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Waiver of 90-Day Time Period
Rinker Materials Corporation
DEP Permit No. 0250014-002-AC
DRAFT Permit No. 0250014-006-AC

Dear Mr. Linero:

This letter is being written on behalf of Rinker Materials Corporation, which is being represented by this firm. Mike Vardeman of Rinker advised me that you have discussed concerns with him with regard to whether Rinker's March 4 letter regarding its application identified by the Department as the above-referenced Draft Permit ("application"), which seeks certain changes to the above-referenced air construction permit, rendered the application complete. In that case Department action would have to have been taken on the application by June 4.

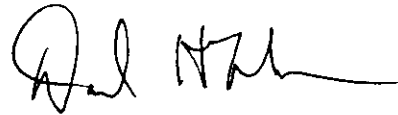
In order to avoid any confusion on this matter, Rinker submitted to the Department on June 3, 1998, a waiver of the 90-day time period under §403.0876, Florida Statutes, within which the Department must take agency action on the application in order to avoid default. This waiver was to expire on August 14, 1998. Based upon our further discussion, Rinker hereby extends this waiver for two months - i.e., until October 14, 1998. In the meantime, it is hoped that Rinker and the Department can resolve any existing issues between them.

If this waiver is unacceptable to the Department, or if you have any other problems with it, please let me know as quickly as possible. Thank you for your cooperation.

August 11, 1998
Page 2

Yours truly,

BERGER DAVIS & SINGERMAN



Daniel H. Thompson

DHT:eam

cc: Jeff Brown
Mike Vardeman
Steve Cullen

Dade Co.
J. Neron

Berger Davis & Singerman

215 South Monroe Street Suite 705 Tallahassee, Florida 32301 Phone: 904.561.3010 Fax: 904.561.3013

**Berger
Davis &
Singerman**
Professional Association

215 South Monroe Street Suite 705
Tallahassee, Florida 32301
Phone: 850.561.3010
Fax: 850.561.3013

June 3, 1998

BUREAU OF
AIR REGULATION

RECEIVED
JUN 03 1998

Via Hand Delivery

Mr. A.A. Linero, P.E., Administrator
New Source Review Section
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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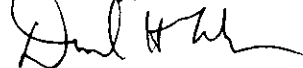
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In order to avoid any confusion on this matter, this letter constitutes Rinker's waiver of the 90-day time period under §403.0876, Florida Statutes, within which the Department must take agency action on the application in order to avoid default. This waiver is given until August 14, 1998. In the meantime, it is hoped that Rinker and the Department can resolve any existing issues between them.

and Dade County!!

If this waiver is unacceptable to the Department, or if you have any other problems with it, please let me know as quickly as possible. Thank you for your cooperation.

Yours truly,



Daniel H. Thompson

DHT/eam

cc: Pat Comer
Mike Vardeman
Steve Cullen

*cc: T. Newton, BAR
EPA
P. Wong, DERM
SED*

*P. Comer, oec
J. Brown, oec*