Puget Sound Clean Air Agency

pscleanair.org

Response to Public Comments

March 17, 2006

NOC 9237
Lafarge – Whole Tire Firing at Mid-Kiln

Steven Van Slyke, PE
Fred Austin, PE

PUGET SOUND CLEAN AIR AGENCY
RESPONSES TO PUBLIC COMMENTS

NOC 9237 – MID-KILN FIRING OF WHOLE TIRES IN CEMENT KILN

LAFARGE NORTH AMERICA, INC. - SEATTLE

Draft Order of Approval No. 9237 proposed for approval was published on December 19, 2005 for public comment. The public comment period was open through February 10, 2006. A public hearing was held on the proposal and draft order on January 24, 2006. Comments were received in writing throughout this period and comments were also received at the hearing.

An executive summary of the comments received and a response to those summarized comments has been prepared as a separate document. Some of those summary responses are referred to in this document to answer a question or address a comment. The detailed response for each comment received is provided below. This document covers the written comments first, followed by the hearing comments.

The final record of our permit decision and responses to comments consists of the following:

1. Transmittal letter to Lafarge North America, Inc.
2. Final Order of Approval No. 9237
3. Summary Responses to Comments
4. Detailed Responses to Comments
5. Final Engineering Review Worksheet

Copies of the first three items have been sent to all respondents. All of the documents will be made available on the Agency's website for at least 60 days. Anyone unable to obtain the documents from the website may contact the Agency to obtain paper copies of those documents.

WRITTEN COMMENTS

Written Comment 1 (Tim Bruland)

Dear sir,

It seems unbelievable to me that any of these toxic byproducts are used to power a cement plant.

In my opinion, non of these are acceptable forms of fuel to power this plant.

Tim Bruland

AGENCY RESPONSE

The fuels used by Lafarge are acceptable and common among the cement industry. Lafarge's operations are not allowed to burn materials that are hazardous (WAC 173-303-515) or dangerous (173-303-090). This is required by Washington State Department of Ecology and Lafarge is required to meet the conditions of these WAC rules independent of the requirements identified in Order of Approval No. 9237.

Conclusion: *Tthe Agency and made no changes to draft Order of Approval No. 9237 as a result of the comment.*

Written Comment 2 (Albert Brucato)

Dear Sir,

It seems to me that it is well past time for us to get rid of major air polluters rather than to provide them with a list of things they must do so they may continue to disperse harmful air pollutants and thereby give them a SANCTION for what they are doing. They are located in crucial areas of our city so that their output can harm much of our city. Their continued operation is obviously for continuous financial profit. If I ask whether their continued profit is justification for continued major pollution, how can our city respond other than to get them out of here? As an organization named Puget Sound Clean Air we are beholden to get them out of our city.

They can very well transfer their activities to areas where they will not be harming people. For example, they could go to desert areas in eastern Washington, and I am certain their clever operators can think of other locations that would not harm human beings and still let them make their profits.

May I hear from you. I would like to know the feasibility of my proposal to get rid of them, all of them.

Thank you

Albert Brucato

AGENCY RESPONSE

Lafarge is meeting all applicable air emission standards on the federal level as well as the local level of this Agency's requirements. This project will allow substituting whole tires as fuel, instead of coal, which should reduce most emissions. (Also see Agency response to Written Comment 1.

Conclusion: *Tthe Agency made no changes to draft Order of Approval No. 9237 as a result of the comment.*

Written Comment 3 (Theresa Bush)

Mr. Austin,

I just read the article in the PI about the proposed tire burning in south Seattle area. The article stated that the company has already been burning some tires, and that burning tires will actually be cleaner than coal. If this has been studied and found to be the case, then I would like to express my support as a local for this proposal.

I have read many articles over the years about tire piles around the country. It seems we have an excess of old tires, and of course a limited supply of fossil fuels. If we can put those tires to good use and at the same time conserve fuel for other uses, it sounds like a win for everyone.

My only concern would be that the tires may not burn as clean as expected. I trust that you have already checked into this concern, and will monitor the pollutants as tire burning increases.

I hope that you will also get as much information out to the local public and the media as possible, so that the decision will not be questioned.

Thank you,

Theresa Bush

AGENCY RESPONSE

During the time period approved in Order of Approval No. 9237, Lafarge will be required to continuously measure emissions of opacity, sulfur dioxide ($SO_{2)}$, nitrogen oxides ($NO_{X)}$, carbon monoxide (CO) and air pollution control system (electrostatic precipitator or ESP) temperature (a surrogate for dioxin), and to continually track fuels, tires, raw materials, and clinker. In addition, Lafarge will be required to conduct quarterly source tests for dioxin, metals and toxic organic compounds.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Written Comment 4 (Beth Lynch)

Hi Fred -

I have a few questions about the draft permit for NOC 9237.

I want to verify that NOx and CO limits for Lafarge could be set by PSCAA in the future (p. 11 of Worksheet).

Has it been determined which metals will be tested for during the required source tests?

Why is there no testing scheduled for chlorobenzene which is emitted at levels close to ASIL?

Do you know how many tires will be stored at one time? Will the trailers be on-site? Where are the tires coming from?

I understand there was a meeting with Lafarge at PSCAA on 11/2.

Were there notes taken at this meeting? I didn't see any in the files.

Has Lafarge responded to the Draft Worksheet?

Thanks - Beth Lynch

AGENCY RESPONSE

Depending of the results gathered from through testing and monitoring required by Order of Approval No. 9237 and if Lafarge submits an application for approval to continue using whole tires at the end of the time period identified in the Order, limits for NO_X and CO emissions could be established.

EPA Method 29 measures essentially all metals including but not limited to the following: Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), Phosphorus (P), Selenium (Se), Silver (Ag), Thallium (Tl) and Zinc (Zn).

The Agency has required many source tests on the emissions of Lafarge in the past. There have been extensive source tests conducted to measure toxic emissions from Lafarge on 10/15/1990, 5/23/1994, 7/24/1994, 7/1/1996 and 8/11/1996 relating to the various fuels burned other than natural gas, coal and petroleum coke. The alternative fuels evaluated include used oil and tire-derived fuel (TDF or often referred to as chipped tires at this plant).

Specifically, the two source tests conducted at Lafarge on 5/26/94 and 7/8/96 attempted to measure chlorobenzene from the main stack. In both cases most volatile organic compounds measured by the methods, including TO-14, were found to be either very low or below the detection limits. This was why the Agency did not include TO-14 as a required test in the proposed approval conditions. However, based on the concerns expressed in the comments, the Agency agrees to include additional testing requirements in the approval conditions.

Conclusion: *The Agency changed the draft Order of Approval No. 9237 by adding additional test parameters as a result of these comments.*

Written Comment 5 (Beth Lynch)

Fred Austin, Engineer
Puget Sound Clean Air Agency

RE: Lafarge application to burn whole tires, mid kiln - NOC No 9237 Public Comments

I've included a list of questions and concerns, including why the community shouldn't have to choose between coal and tires for cleaner air.

The PSCAA draft permit recognizes potential increases of Carbon Monoxide (CO) emissions as a result of burning tires. EPA document (# 600/R-97-115 "Air Emissions From Scrap Tire

Combustion , 1997) notes a potential increase in Polycyclic Aromatic Hydrocarbons (PAH's) which are carcinogenic, and particulates, as a result of tire burning. This document's conclusions were based on conditions up to 20% tire fuel. Lafarge wants to burn up to 40% tire fuel.

Formaldehyde is the only Volatile Organic Compound (VOC) to be tested for. Why is this the case? The source tests won't require testing for PAH's or other hazardous VOC's such as Benzene, Styrene, Toluene, Trichlorethyhylene, and Xylene which the EPA associates with tire burning (see EPA report referenced above). Also, will the source testing for chromium include Hexavalent Chromium (Cr VI)?

It appears Lafarge's final goal is to burn 40% tires. If that's the case, the only data to be evaluated will be one source test, and I don't believe source tests are representative enough of daily operations.

Lafarge's NOx and CO continuous monitors are not required to be EPA certified for accuracy. Unlike the source tests, the fuel conditions will be changing daily, and Lafarge would be required to monitor and report daily fuel usage and the results from the continuous emissions monitors. Lafarge would also be required to analyze the data. I'm very concerned about how the results will be reported by Lafarge, and the ability for the Agency and the Community to effectively evaluate the data.

Last year Lafarge failed two Dioxin/Furan tests and had a large number of kiln "upsets" (27 as of September 30th). Lafarge blamed a new automation system as causing the problems. To my knowledge this system still hasn't been competed. What will happen if this temporary permit is approved, and the kiln problems continue?

In Lafarge's NOC application for approval, a list of metals and predicted emission rates were listed. Compared to PSCAA's list of ASILS, there are 7 metals listed in error as non-hazardous. These include Antimony, Cobalt, Lead, Manganese, Nickel, Phosphorous, and Selenium. This may seem minor, but I consider it sloppy and indifferent.

Acrid, bleach-like odors coming from Lafarge are still a problem, and I don't if more, or different odors will result from Lafarge burning tires.

On November 17th, PSCAA sent two written warnings to Lafarge regarding odor complaints. Lafarge was to respond within 10 days. As of January 11th Lafarge had not responded.

Jim Nolan and Mike Gilroy from PSCAA have said the Agency wouldn't bring the open-path air monitors back to Highland Park and South Park in 2006. If this "temporary" permit is approved, I think it's important to bring the monitors back during the testing period, and test for the 34 target compounds listed by the EPA document as associated with tire combustion (see list below).

Complaints of dust fallout in Highland Park believed to come from Lafarge occurred as recently as November. PSCAA should establish a permanent particulate monitor to be placed at SSCC in the Riverview community, closest to Lafarge. There is a particulate monitor at the South Park Neighborhood Center.

Finally, PSCAA supports tire fuel as an effective way to reduce NOx emissions. The Agency has also blamed NOx as contributing to the "South End Odor". Logic would say adding tires to the fuel mix would be doing the community a favor. But there are other viable NOx controls Lafarge could use instead of tires, including Low-NOx burners (Lafarge flimsily dismissed this technology in a report last year). On January 11th, the Texas Commission on Environmental

Quality released a draft report on the technical and economic feasibility of Selective Catalytic Reduction (SCR) and NOx Oxidation (LoTOx) technology which can reduce NOx up to 85% in both wet (Seattle's Lafarge) and dry kilns.

Thank you for your consideration and replies.

Beth Lynch

Reference:

p. 27 - Table 12. Target Compounds representing highest potential for health impacts from open tire fires EPA document # 600/R-97-115 "Air Emissions From Scrap Tire Combustion"

(1997) -

Acenaphthene
Acenaphthylene
Arsenic
Barium
Benz(a)anthrcene
Benzene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzylchloride
Butadiene
Carbon Monoxide
Carbon Tetrachloride
Chloroform
Chromium ----- Haxavalent Chromium - emphasis mine
Chrysene
Coal tar pitch volatiles
Cumene
1,2, Dichloropropane
Dibenz(a,h)anthracene
Ethylene dichloride
Hexachloroethane
Hexane
Lead
Methylene chloride
Nickel
Phenol
Styrene
Sulfur dioxide
Sulfuric acid
Toluene
1,1,2-Trichloroethane
Trichloroethylene
Vanadium
o-Xylene

AGENCY RESPONSE

The EPA document cited in this comment (EPA-600/R-97-115, "Air Emissions From Scrap Tire Combustion", 1997) is on file at the Agency and may also be found on the EPA's website. This study characterizes air emissions from burning scrap tires from uncontrolled and controlled sources. The recommendations from this study include the following statements.

"The results of a laboratory test program on controlled burning of tire-derived fuel (TDF) in a Rotary Kiln Incinerator Simulator (RSKIS) are presented. Based on the results of the RSKIS test program, it was concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different that from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated, and well-maintained combustion device."

"Source test data from 22 industrial facilities that have used TDF are presented: three kilns (two cement and one lime) and 19 boilers (utility, pulp and paper, and general industrial applications). In general, the results indicate that properly designed existing solid fuel combustors can supplement their normal fuels (coal, wood, and various combination of coal, wood, oil, coke, and sludge) with 10- to 20-percent TDF and still satisfy environmental compliance emissions limits. Furthermore, results from a dedicated tires-to-energy (100-percent% TDF) facility indicate that it is possible to have emissions much lower than those produced by existing solid-fuel-fired boilers (on a heat input basis), when properly designed and the facility is controlled."

The document included a partial summary of the source testing completed in 1990 at the Lafarge plant (then Holnam Cement) that showed all of the polycyclic aromatic hydrocarbons (PAH) emissions detectable in the samples decreased with chipped tire fuel substitution in comparison to coal. A more complete summary of that testing for all of the toxic air contaminants emission factor changes have been added to the engineering review worksheet for this NOC.

For comment on the scope of the test parameters, see Summary Comment 5.

Comment regarding the evaluation of "one source test" for a 40-percent tire substitution rate is inaccurate. The review of any subsequent application by Lafarge to seek permanent approval of a whole tire substitution rate will include all of the source tests required by this Notice of Construction (NOC) order (a total of five test events) plus the continuous monitoring and operational records submitted by Lafarge throughout the time period provided by the final Order of Approval No. 9237, as required by the specific approval conditions.

The NO_X and CO monitoring requirement included in the proposed order intended to have the data evaluated with respect to its quality. Note – there are no NO_X and CO emission limits at this point in time, so the current necessity to have EPA level of certified monitoring has not been established. Each of the required source tests will also include reference method testing for NO_X and CO. It was the intent of the Agency to improve the quantity of continuous emission data for NO_X and CO during the trial period for comparison to fuel operational data. There are instruments onsite now that can fill that information need and should a permanent approval be considered, the necessity and

quality of the monitoring for NO_X and CO will be reevaluated at that time. With respect to how the data will be reported and shared with the community for evaluation, please refer to Summary Comment 7.

With respect to kiln upsets and dioxin/furan emission performance, see Summary Comment 6. One change has been made in the final order of approval to clarify that Lafarge cannot operate at the 20-percent whole tire substitution rate on a continuous basis under this order until the performance test for that condition has been submitted and demonstrates compliance with the existing dioxin/furan emission limit.

The Agency recognizes that there were seven metals listed in Lafarge's application which were incorrectly flagged as "non-hazardous " when in fact these metals should have been flagged as hazardous. The EPA Method 29 covers the testing of all these metals.

For comment regarding odors, see Agency response to Hearing Comment 12. Two written warnings were issued to Lafarge in response to events on 11/17/05. In one, inspectors were able to verify an odor at a complainants residence on 11/17/05. Inspectors could not definitively verify source of the odor as Lafarge but felt that Lafarge was the likely source. That written warning was mailed to Lafarge on 12/9/05. The other written warning was issued directly to Lafarge on 11/17/05 for failure to have a record of complaints received. The written warnings requested information and responses from Lafarge. This was not an order to respond in writing, as would be required for a notice of violation. No responses to the written warning requests have been received from Lafarge (at the time these responses to comments were prepared), but the Agency is still pursuing a response.

With respect to comment on restarting the open-path monitoring efforts in the community, see Summary Comment 4. Regarding the request for an additional permanent particulate matter monitoring (PM) station in the Riverview community, the Agency believes that the current location of PM monitoring stations accurately characterize the air quality in this part of Seattle. The PM monitoring technology is based on particles less than 2.5 microns in diameter. Dust fallout would represent particles greater in size than the monitors would detect.

Regarding the desire for other NO_X emission control measures other than tire fuel substitution, see Summary Comment 3.

Conclusion: *The Agency has made a change to draft Order of Approval No. 9237 as a result of the comment regarding dioxin/furan performance testing. The change made was a clarification regarding the initial compliance demonstration necessary prior to proceeding with the whole tire operation.*

Written Comment 6 (Beth Lynch)

To Fred Austin, Engineer
Puget Sound Clean Air Agency

RE: Determination of Nonsignificance - Lafarge tire burning permit request

I am opposed to the Determination of Nonsignificance regarding Lafarge's tire burning proposal. Because PSCAA has already allowed tire burning at Ashgrove Cement, I shouldn't be surprised at this "Determination".

The PSCAA draft permit recognizes potential increases of Carbon Monoxide (CO) emissions as a result of burning tires. This alone contradicts the "Determination".

I believe the basis for the Determination is inadequate. The Worksheet lists only one reference to emissions from tire burning other than NOx. "Burning Tires for Fuel and Tire Pyrolysis: Air Implications" - EPA doc# 450/3-91-024 (1991).

Also, in their application to burn whole tires, Lafarge made a list of 25 metals with their predicted emission rates with tire fuel. 1990 was the their only source test for compounds, other than particulates, using chipped tires for fuel. In that test, only 5 metals were tested for, including Arsenic, Cadmium, Chromium, Copper, Lead, and Zinc. I assume the emission rates for the other metals listed by Lafarge were based on modeling, which I don't believe is representative of normal operating conditions.

Lafarge didn't care enough to supply the emissions data and modeling paperwork in their application. For emissions data, I had to request copies of the source tests from archived public records. Did PSCAA receive and verify Lafarge's modeling data? If so, why wasn't this provided in the Worksheet?

A most recent report (not referenced by PSCAA), EPA document # 600/R-97-115 "Air Emissions From Scrap Tire Combustion", 1997, notes a potential increase in Polycyclic Aromatic Hydrocarbons (PAH ‘s) which are carcinogenic, and particulates, as a result of tire burning. Lead, Arsenic, and Zinc were also found in higher concentrations using 17% tire fuel. These emissions results were obtained by using a laboratory simulator. I assume the simulator operated with more stability than daily cement kilns, so the emissions increases reported give me more concern.

Interestingly, the 1990 tire burning source test data from Seattle's Lafarge (then Holnam Cement) was used in the same EPA report. Only one other cement kiln supplied tire burning data for this report, and this was a different kiln type than Holnam (Lafarge). How can PSCAA or the EPA be confident in the safety of tires used as fuel from this limited data?

Thank you again for your consideration and replies.

Beth Lynch

AGENCY RESPONSE

The Agency's Determination of Nonsignificance is based on the analysis that most emissions are determined to decrease with the reduction of coal fuel for chipped and/or whole tire fuel. While there may be some minor increase in air emissions associated with burning whole tire instead of chipped tires, these emission increases are all modeled below the ASIL levels of Regulation III Appendix A Acceptable Source Impact Levels. Part of the reason to issue Order of Approval No. 9237 with a two year permit term is so the Agency may evaluate the testing results during this period. Then if a subsequent application for an approval is requested by Lafarge, the Agency can set appropriate monitoring, recordkeeping and reporting requirements, as well as emission limitations on real measured data.

The anticipated increase in CO emissions is based on indirect testing results from the process of injecting tires mid-kiln as a staged combustion technique. The required tests will verify and quantify the emission factor if an increase is verified. This pollutant will be measured on a continuous emission monitoring basis.

Page 12 of the Engineering Worksheet contains the ambient modeled values that were submitted to the Agency and modeled by Lafarge. Lafarge says the following:

> *"The emission rate for each TAP [toxic air pollutant] was determined based on the highest emission rate measured for that pollutant since 1996. Those measurements include a test using 24% TDF [tire-derived fuel] and two tests using waste oil. Normally, an applicant is only required to model the impacts of the emission increases. However in this case, not only was the worst case increase evaluated, but existing Lafarge emissions were also included as an extra margin of safety."*

Order of Approval No. 9237 requires the measurement of listed metals following EPA Method 29.

The results of the source's modeling analysis is included in Section N of the Worksheet. No additional modeling is required since the emissions are decreasing and are below the ASIL values.

For additional discussion, see Summary Comment 6.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments.*

Written Comment 7 (William Jaback)

Dear Mr. Austin:

I am a resident of the Riverview Neighborhood to the West of the Lafarge cement plant.

I have lived in Riverview for the past six years and have learned to live with the perennial dust that blankets my car and my plants. I have also grown accustomed to the acrid odor that is frequently present when smoke from the Lafarge stack is blowing toward my neighborhood. For years I have been monitoring the progress of attempts of my neighbors to isolate the cause of the dust and odor that visit my neighborhood, and I have called to report the presence of the odor in

order to help the Puget Sound Clean Air Agency isolate the cause(s) of the dust and odor problems.

I just learned this evening of the public comment process for Lafarge's application to extend its permit to burn tires in its kiln. It is my understanding that Lafarge is pursuing this permit to allow for less reliance on coal as a source of fuel for its activities. While I support the idea of relying less on coal or oil to fuel Lafarge's kiln, I have serious reservations about the granting of a permit to Lafarge to derive 40% of its fuel from the burning of tires.

My concern does not lie in the burning of the tires in and of themselves per se. Rather, I am uncertain of the methodology that PSCAA will employ to monitor the emissions of noxious gases and carcinogenic particulates. The use of spot checks over a system of continuous monitoring may not provide the range of data that PSCAA will need to draw reliable conclusions about the emissions resulting from the increased burning of tires. I am also perplexed at the PSCAA position that monitoring stations will no longer be needed in the Riverview and South Park Neighborhoods.

This is troubling because within just a couple miles of the Lafarge plant, and often downwind from this plant, are at least five schools (one community college, one high school, and three elementary schools), and a slew of public parks in which children adults engage in strenuous physical activity. It is truly amazing to me that after years of stated concern by residents of the South Park and Riverview neighborhoods that PSCAA would even consider, let alone plan on, removing monitoring stations at a time when Lafarge has applied to increase the burning of fuel that may very well be the source of dust and odor nuisances, at best, and significant health risks in a major metropolitan area, at worst.

If you decided to approve the burning of additional tires by Lafarge, I urge you to perform continuous monitoring of a full spectrum of emissions from this activity and to INCREASE, not decrease, the number of monitoring stations in the Riverview and South Park Neighborhoods.

Please do not hesitate to email or call me if you have any questions about my comments.

Thank you,

William C. Jaback

AGENCY RESPONSE

See Agency response to Summary Comment 4 and responses to Written Comments 4, 5, and 6.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Written Comment 8 (Tanya Powers)

I strongly protest the burning of tires in the South Park cement factory. I would like to be able to raise my children in an environment where they do not have to deal with toxic chemicals or noxious fumes in the air.

I request your support in helping in insure that the air my family and my community breathes is the best quality it can be.

Warmest regards,

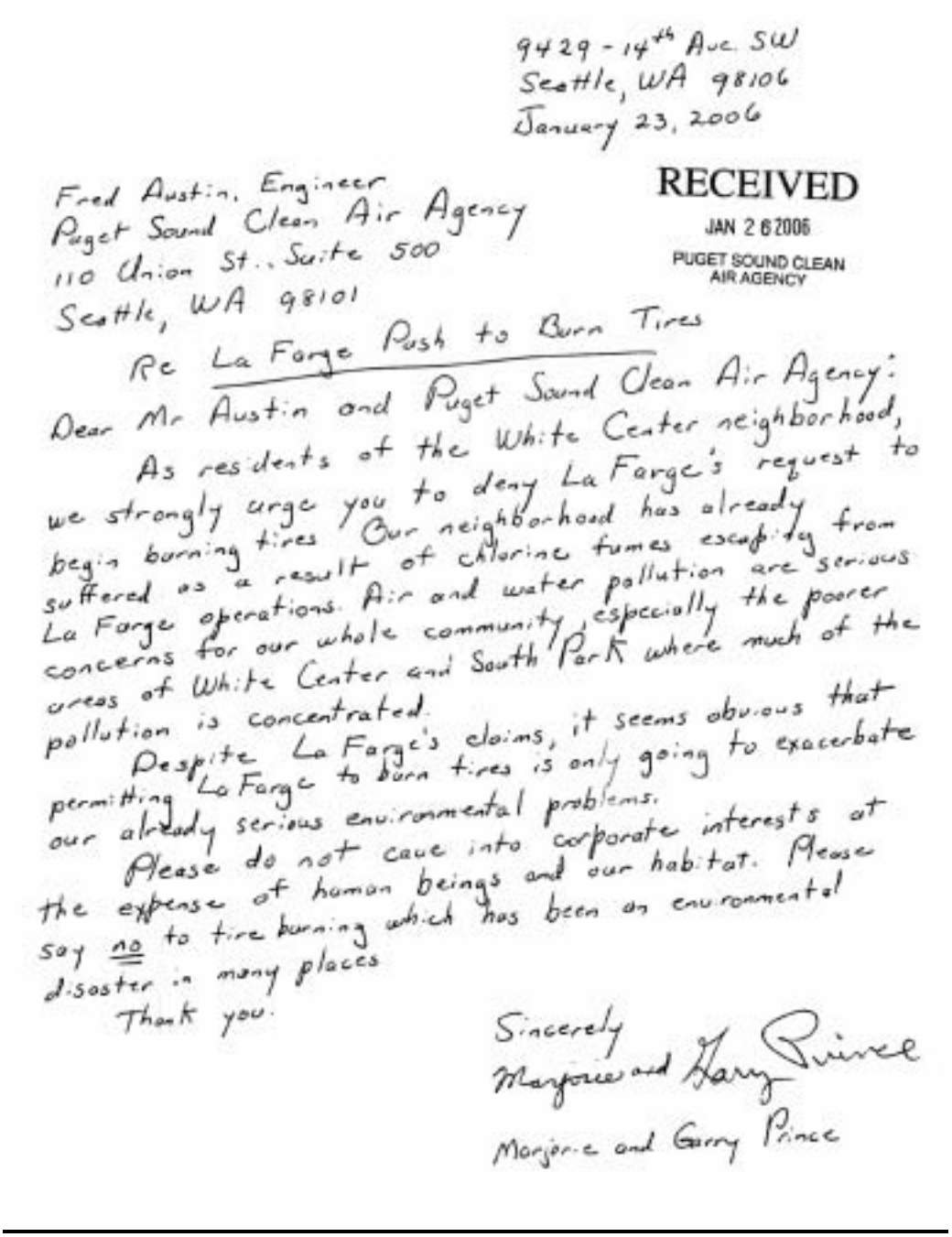
Tanya Powers

AGENCY RESPONSE

See responses to Summary Comments and the previous Written Comments for similar comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Written Comment 9 (Marjorie & Garry Prince)



9429 - 14th Ave SW
Seattle, WA 98106
January 23, 2006

RECEIVED
JAN 26 2006
PUGET SOUND CLEAN AIR AGENCY

Fred Austin, Engineer
Puget Sound Clean Air Agency
110 Union St., Suite 500
Seattle, WA 98101

Re La Farge Push to Burn Tires

Dear Mr Austin and Puget Sound Clean Air Agency:

As residents of the White Center neighborhood, we strongly urge you to deny La Farge's request to begin burning tires. Our neighborhood has already suffered as a result of chlorine fumes escaping from La Farge operations. Air and water pollution are serious concerns for our whole community, especially the poorer areas of White Center and South Park where much of the pollution is concentrated.

Despite La Farge's claims, it seems obvious that permitting La Farge to burn tires is only going to exacerbate our already serious environmental problems.

Please do not cave into corporate interests at the expense of human beings and our habitat. Please say no to tire burning which has been an environmental disaster in many places.

Thank you.

Sincerely
Marjorie and Garry Prince

Marjorie and Garry Prince

AGENCY RESPONSE

See several comments above, concerning why the Agency expects most emissions to decrease with the use of whole tires replacing a portion of coal versus the current Agency-approved use of chipped tires.

The reports evaluated by the Agency show generally reduced emissions from kilns burning tires compared to burning coal.

See also response to Hearing Comment 12 for a discussion of the odor issues in the community as it relates to Lafarge.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of these comments.*

Written Comment 10 (Karmen Marten)

RECEIVED
JAN 30 2006
PUGET SOUND CLEAN AIR AGENCY

Fred Austin, Engineer
Puget Sound Clean Air Agency
110 Union St, Suite 500
Seattle, WA 98101

Re: Lafarge North America Inc., Draft Notice of Construction Order of Approval and SEPA DNS

To Whom It May Concern:

Please accept my comments on the Lafarge Draft Notice of Construction Order of Approval and SEPA DNS.

Overall Comments

When I moved to the Riverview neighborhood of West Seattle three years ago and first started smelling a rather unsavory acrid, bleach-like smell, I thought perhaps it was an anomaly, a freak thing (perhaps a major bleach spill in my neighbor's yard:). Then it kept happening and I soon learned that this thing had a name – dubbed the "South-End Odor". My annoyance level grew to new levels when I learned that residents of these communities have been complaining about this odor for years and were subjected to lies and misrepresentation by the Lafarge Company over the source of this odor.

Now, there is this new issue of burning whole tires, mid-kiln, which Lafarge (and apparently PSCAA) claim will reduce the NOx and SO2 emissions (the source of the odor problems). All fine and well to reduce these emissions, but what is the tradeoff? The literature points to new and nastier compounds from burning tires. It has never just been the annoyance of the odor. I frankly am even more concerned with what is in this odor that could be causing harm to human health? Now we are looking at possibly increasing toxic emissions...how is this solving the problem?

This is an urban environment with many sources of air emissions. There are several initiatives to reduce emissions from a wide variety of sources of air emissions. In addition, the PSCAA and the City of Seattle should support the use of clean technologies and require industry in the Duwamish Valley to use the best available technology for reducing emissions. I would also point to the City of Seattle's Healthy Urban Environment Initiative and the Mayor's priorities on reducing greenhouse gas emissions.

SEPA DNS

1. Though likely not a requirement of PSCAA's SEPA procedures, given the high level of interest in Lafarge's activities and the 250 complaints* received by PSCAA in the last couple of years related to Lafarge emission plume odor, additional outreach to the affected communities of West Seattle, Georgetown, and Beacon Hill would seem warranted. It appears the public hearing at South Park Community Center was the only public forum related to this proposal.

2. The SEPA Checklist seriously understates the potential impacts to air quality, including the level of uncertainty surrounding human and environmental health effects of the emissions, level of uncertainty of the ability of the Lafarge kiln to be used effectively in this manner given the old "wet kiln" technology used and the kiln's history of upsets. WAC 197-11-080 (2) states, "*When there are gaps in relevant information or scientific uncertainty concerning significant impacts, agencies shall make clear that such information is lacking or that substantial uncertainty exists.*"

3. The impacts of this proposal cannot be ascertained from a reading of the responses in the SEPA Checklist. Many of the responses appear to be either misrepresentation, lack of knowledge, or lack of material disclosure on the part of the proponent (see specifically responses under Air and Environmental Health).

4. In general, the SEPA Checklist provides inadequate analysis of impacts from the proposal. It includes numerous unsupported statements, and not even a cursory review of the issues. For a project with a potential to increase a number of air emissions, including emissions of known carcinogens, mutagens, and other toxic compounds, an Environmental Impact Statement should be required. It is unclear how PSCAA reached their Determination of Nonsignificance for this proposal. Was there a separate analysis conducted by the agency that wasn't included in the public notice?

Air Quality Impacts

1. In Lafarge's brief, prepared statement at the South Park public hearing, the company representative trotted out a handful of studies to support their claim that burning whole tires at their plant can be done in an "environmentally sound" manner. What the representative didn't' say was that these studies were prepared for a certain type of kiln, or in highly controlled tests or highly controlled kiln simulators, and in conditions different from those of the Duwamish Valley. Also, several of these studies are known as "pro-TDF" studies and have been discounted as "junk science" by several reputable scientists.

2. One of the government studies cited by the representative was Environmental Protection Agency's 1997 report "Air Emissions from Scrap Tire Combustion". What the representative didn't go into were the differences between Lafarge's Duwamish facility and the facilities reviewed, and the EPAs actual conclusion, which states:

> "Based on the results of the [EPA rotary kiln incinerator simulator] test program, it can be concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a ***well-designed, well-operated and well-maintained combustion device***." (emphasis added – point being that the Lafarge facility is old technology, was never designed for burning tires, and is undemonstrated as being well-operated or well-maintained).

3. What is PSCAAs assessment of the effects of exposure to more than one carcinogen or toxicant? Did PSCAA take into account the ambient air environment in the Duwamish Valley?

What are the cumulative effects to exposure of the potential emissions? What are the cumulative effects during air inversions?

Monitoring

1. Under the draft permit, there would be continuous monitoring for NOx, SO2, CO, and opacity (particulates). Just based on my observations of Lafarge's plume and my experience with the odor problems, I would question whether Lafarge currently is able to control their NOx and SO2 emissions on a consistent basis (?) I have also observed thick "yellow" smoke coming from their smokestack on many occasions, which I haven't observed from any of the other facilities in the Duwamish.

2. Under the draft permit, there will be 5 quarterly source tests for Dioxin/Furan, Metals, and Formaldehyde, the only Volatile Organic Compound (VOC) to be tested for. The source tests won't require testing for PAH's or other hazardous VOC's such as Benzene, Styrene, Toluene, Trichlorethylene, and Xylene which the EPA associates with tire burning. Periodic trial tests would seem a poor indicator of operation on a daily basis. What is known about the ability of the plant operator to carefully manage variables such as wastefeed, temperature, oxygen flow, and pollution control device to optimize performance and lend favorable results during these tests? We know from past experience that there is great variability in the day-to-day operations of Lafarge and numerous upset events. This is an old facility that was never designed to burn tires. Let's be honest....during trial burns when regulatory authorization is at stake, there is great incentive for the plant to carefully control their operations. The point here is that on a day-to-day basis, emissions may be considerably higher.

3. If this "temporary" permit is approved, I would urge PSCAA to bring the monitors back to Highland Park and South Park during the testing period, and test for the 34 target compounds listed by the EPA document as associated with tire combustion.

4. I would also request that existing problems be fixed before PSCAA considers approval of this new proposal. It is my understanding that there is existing technology that Lafarge can use to reduce it's NOx emissions. PSCAA should require Lafarge to install the best available technology, such as Selective Catalytic Reduction (SCR) and NOx Oxidation (LoTOx) technology.

Thank you for your consideration.

Sincerely,

Karmen Martin
1214 SW Myrtle ST
Seattle, WA 98106

AGENCY RESPONSE

Most of these comments are addressed in the responses to the Summary Comments.

The Agency's past findings from previous source tests at Lafarge and the general tire burning studies cited above under Comment 5 show in general there are decreased emissions with the burning of tires. The Agency review has found the possibility of minor increases in only a few compounds and all of these compounds that do show minor emission increases are predicted to produce offsite concentrations below the Acceptable Source Impact Levels (ASILs) defined in WAC 173-460 and Puget Sound Clean Air Agency Regulation III. See response to Summary Comment 6 for a discussion of Lafarge's toxic air contaminant emissions and the relationship to ASILs.

This project is for the addition of whole tires into the mid-kiln and needs to be compared with the currently approved fuels including coal, petroleum coke, oils and chipped tires introduced in the fuel end of the kiln.

Because there are few situations where whole tires have been approved as an additional fuel to chipped tires, there is reason for the Agency to require a testing and monitoring period under an order which has a time limited permit term to gain this knowledge.

The SEPA determination of non-significance relies on the NOC application review process to evaluate the emissions and impacts from the proposal. As discussed in other responses, the conservative assumptions included in the application -- and the clear indication that the ASIL concentrations are not exceeded using those conservative assumptions -- supports the conclusion that there are no identified adverse air quality impacts for SEPA consideration. The key unknowns that the Agency is seeking to clarify with through Order of Approval No. 9237 and the testing/monitoring program for that permit term include:

- **How much will CO emissions increase in relation to increasing whole tire injection?**
- **How much will NO_X emissions decrease in relation to increasing whole tire injection?**
- **Will all of the whole tire injection rates sought by Lafarge demonstrate compliance with the dioxin/furan emission limit in the EPA's NESHAP regulations for cement kilns?**

The Agency has not made the determination of non-significance (DNS) on the basis the "information is lacking or that substantial uncertainty exists" as stated in WAC 197-11-800(2) as suggested by this comment. The Agency is seeking information from the testing required by the conditions included in Order of Approval No. 9237 to answer the questions identified above. The Agency has sufficient information to make this determination. The Agency made its determination of non-significance on the basis of the entire NOC application record documented in the Engineering Worksheet. That record includes additional technical references and the past testing completed on this kiln demonstrating the emission changes associated with substitution of chipped tires for coal as fuel for the kiln.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of these comments.*

Written Comment 11 (Todd Kester)

Dear Mr. Austin,

I am writing as Legislative Representative for United Transportation Union Local 845, representing Switchmen on the BNSF Railway in Seattle, WA. A number of members in this local have voiced their wishes that Lafarge continue to be a good corporate neighbor and customer on the BNSF.

While we hope they comply with all local environmental standards, we appreciate the opportunity to continue to haul their cement and other products and look forward to their continued presence as a business in West Seattle.

Sincerely,

Todd Kester, UTU 845 Legislative Representative

AGENCY RESPONSE

Comment noted.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Written Comment 12 (Kathy Parker)

Dear Puget Sound Clean Air Agency:

Thank you for the opportunity to comment on Lafarge's intent to burn tires in the south end.

When the wind blows from the east we, living in Seahurst, already clearly smell the bleach like odor from Lafarge's present burning. Combining that with the airborne pollutants from SeaTac Airport dramatically increases south enders risk of all the illnesses associated with poor air quality. As a government agency supported by taxpayer dollars and having a charge of clean air, I am amazed you would even consider such a request.

Therefore, please deny Lafarge the temporary or permanent right to burn tires. Require that they improve their current practices. Please keep in mind that our area carries an undue burden living so close to an industrial area AND the state's only international airport. You need to look at these proposed impacts in COMBINATION with all of the other well documented impacts from other industry and SeaTac Airport.

I invite you to test air at my home the next time the wind blows from the north and east.

Sincerely,

K. Parker

AGENCY RESPONSE

See responses to Summary Comments overall and response to Hearing Comment 12 regarding the Agency's review of the odor issues in the community. The Agency does not have a reason or basis to deny the NOC application.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of the comment.*

Written Comment 13 (Community Coalition for Environmental Justice)

COMMUNITY COALITION FOR ENVIRONMENTAL JUSTICE

2820 East Cherry St.
Seattle, WA 98122
Phone: 206-720-0285
Fax: 206-720-5241
Web: www.ccej.org
Email: pattie@ccej.org

February 7, 2006

Jim Nolan
Puget Sound Clean Air Agency
110 Union St., Suite 500
Seattle, WA 98101

Dear Mr. Nolan:

We appreciate the opportunity to submit this written comment in regards to Lafarge of North America's permit (#9237) to burn whole tires.

The Community Coalition for Environmental Justice is concerned about the **potential health effects** (both human and environmental) of Lafarge burning whole tires. There are a number of contaminants that are associated with burning tires in a wet process kiln that should persuade PSCAA to immediately reject Lafarge's application. The contaminants associated with burning whole tires that are of greatest concern include dioxins, polychlorinated biphenals, polyaromatic hydrocarbons, lead, zinc, chromium and arsenic. We are sure that PSCAA already knows that all of these contaminants are byproducts of burning whole tires.

If air testing does not include the full range of contaminants associated with tire burning, then PSCAA is doing a disservice to the community. **We recommend that PSCAA not grant the permit to Lafarge**, however if PSCAA decides to approve the permit we recommend that a full range of testing be implemented throughout the trial year.

We are also troubled about PSCAA's **public comment process** that did not give the community any real answers to their questions and comments. In the future it would be much more beneficial for the people involved in the public comment process to hear PSCAA's opinions on the issues. With the current process, the community has to wait to hear back from the agency to get answers. The problem is that once PSCAA gives their answers, the public comment period is over. There is a lack of accountability from PSCAA in this process that should be revised for future public comment sessions.

Thank for taking the time to consider these comments, concerns and suggestions. If you have any questions please give us a call at 206-720-0285.

Sincerely,

Nate Moxley
Community Organizer

Yolonda Sinde
Executive Director

AGENCY RESPONSE

See responses to Summary Comments 2, 5, and 7.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Written Comment 14 (Charlie Cunniff/ECOSS)

Hello-

I have a few comments on the Lafarge situation.

Something happened about 3 years ago to increase an odor in the south end. Fingers and instruments pointed to Lafarge; they denied culpability and tried to convince us scientifically that they could not be culpable. Few minds were swayed.

While not admitting guilt, they went on the make changes at their plant in the name of efficiency. Odor complaints and calls to PSCAA went down dramatically, though they did not disappear. During this time, it is my belief that Lafarge knew there was some reason for their being blamed, but could not publicly accept blame. Nevertheless, it is my memory that they are not violating their emission standards and the complaints are down. I may be wrong on this, but that is my memory today from El Salvador.

As for tire burning, I think it can work. Ash Grove cement on the Georgetown side of the river was burning whole tires for fuel back in 1995 and I think they still have the same practice today. I have been told by quite a few "experts" that the emissions from burning tires in a cement plant are equal to or lower than using coal or oil. I do not have independent verification for that in my hand. But we can check with PSCAA and Ash Grove. Also, waste tires are an enormous problem for our society. Almost all of us contribute to the problem by driving cars. There are few uses for used tires and they can be a large pollution problem themselves. Burning them for fuel is not "recycling" *per se*, but it is "re-using" them as fuel. The tires are consumed in less than a few seconds in the process. That I did observe at the Ash Grove plant a few years ago.

I am with Maureen Carroll when she said that she did not trust Lafarge in independently monitoring their own emissions. They should monitor their emissions, but PSCAA should as well, in order to cross check. Trust, yet verify, as Nixon and Kissinger used to say.

There are other contributors to odors in the south end and I hope to be working with you and them to control the emissions when I get back.

Full Disclosure: Lafarge and the previous company Holnam Cement have been long supporters of ECOSS. Though they are supporters, I have been critical of them publicly and privately. Our relationship started when we helped Holnam build a deal for their brownfield property in South Park that was redeveloped on 96th street about 7 years ago. I have had many discussions with the Holnam and Lafarge management and technical people. I think they want to do the right thing, while staying in business as a productive industrial company in an urban environment. I

will continue to try and work with them openly and honestly to be a good, or at least better, neighbor.

Charlie Cunniff

ECOSS

AGENCY RESPONSE

Please see Agency responses to Summary Comments and response to Hearing Comment 12 regarding the Agency's review of the odor issues in the community. Source testing at this facility has historically been completed by third-party contractors experienced in this work, which was observed by Agency staff. The Agency is notified about a scheduled test and staff members typically observe the testing. Test observations are done to verify the test methods being used by the contractor are appropriate and following approved method requirements. The observation of testing also verifies that the operational conditions of the source are representative for the test objectives.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Written Comment 15 (Elizabeth McFeely)

Dear Mr. Austin

I am a resident of South Park and attended the recent community meeting to hear from the company. I am totally opposed to Lafarge's plan to burn tires. I don't see any assurance or scientific evidence to prove that the process won't release harmful chemicals into the air. Other smells in the surrounding neighborhoods have been traced to Lafarge. I understand that their kilns are old and see no proof that they will install the appropriate equipment or filters to mitigate the release of gases. An outside agency needs to monitor air quality and some assurances and consequences need to be in place before any such plan is approved.

Thank you.
Betsy McFeely
Dallas Avenue South
South Park

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of the comment.*

Written Comment 16 (Washington Association of Churches)

FEB. 10. 2006

WA ASSOC CHURCHES NO. 0617 P. 1

Washington Association of Churches

The Rev. John C. Boonstra, Executive Minister
419 Occidental Avenue South, Suite 201 Seattle, Washington 98104-2886
voice 206.625.9790 fax 206.625.9791 wac@thewac.org www.thewac.org

Members
African Methodist Episcopal
Pacific Northwest Conference
Church of the Brethren
Oregon/Washington District
The Episcopal Church
Diocese of Olympia
Diocese of Spokane
Evangelical Lutheran Church in America
Eastern Washington/Idaho Synod
Northwest Washington Synod
Southwestern Washington Synod
Evergreen Association of the American Baptist Churches
The Northwest Region of the Christian Church (Disciples of Christ)
Presbyterian Church (USA)
Synod of Alaska Northwest
United Church of Christ
Pacific Northwest Conference
United Methodist Church
Pacific NW Annual Conference

Associate Members
Intercommunity Peace & Justice Center
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Cooperating Partners
Associated Ministries of Tacoma/Pierce County
Church Council of Greater Seattle
Church Women United, Washington Northern Idaho
Church World Service, Pacific Northwest Region
Gorge Ecumenical Ministries
The Greater Vancouver Interfaith Association
The Interfaith Association of Skagit County
Interfaith Council, Inland Northwest
Interfaith Works, Thurston County
Yakima Association of Churches and Faith Communities

WAC is a 501(c)3 non-profit organization

fax

FEB 1 0 2006

to: Mr. Jim Nolan
Puget Sound Clean Air Agency

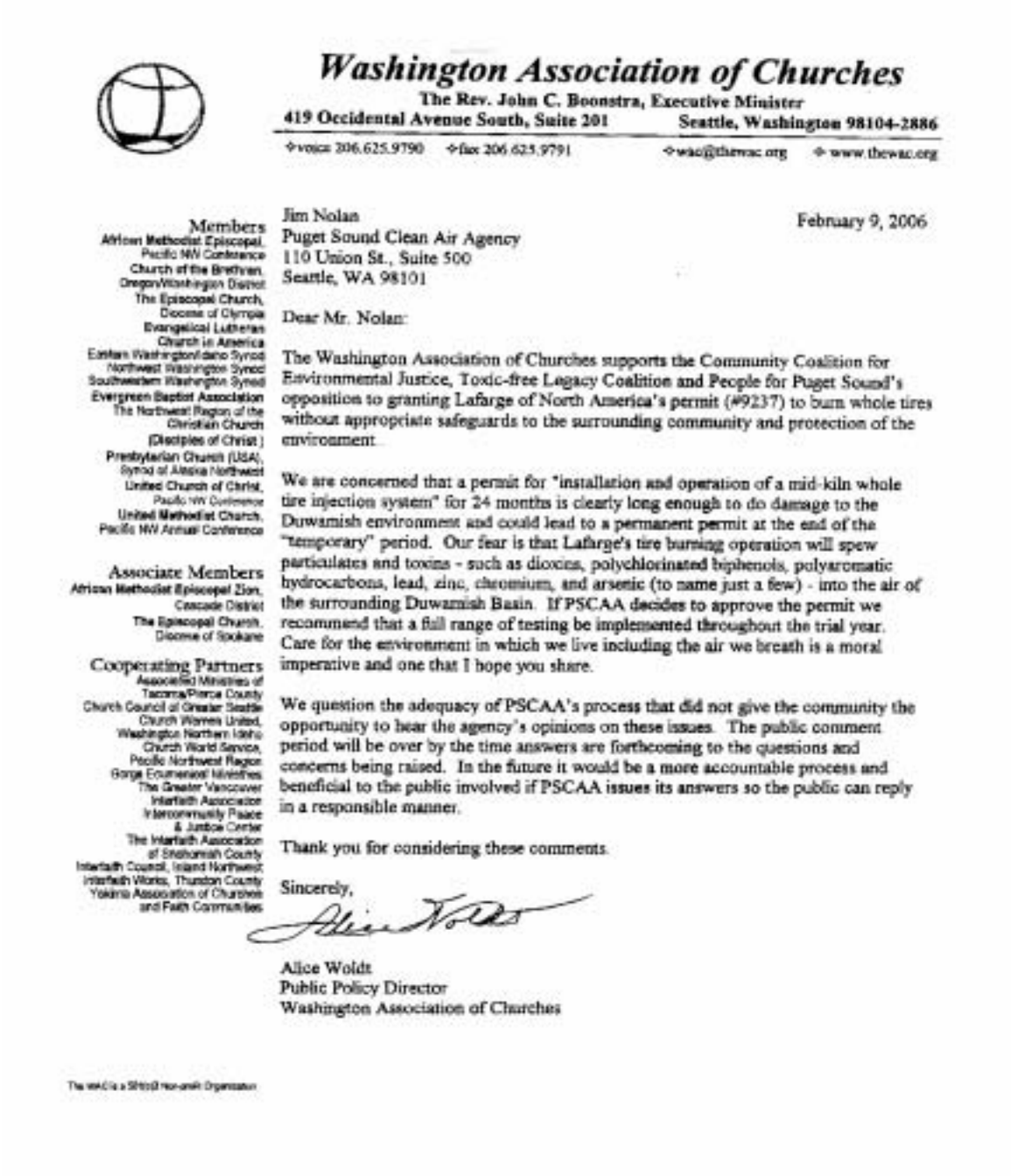
fax #: 206.343.7522

from: Alice M. Woldt, Public Policy Director
Washington Association of Churches
fax #206.625.9791 telephone #206.625.9790 ext 13
woldt@thewac.org
www.thewac.org

date: 2/9/06

subject: Permit to burn whole tires/safeguards to protect environment

pages: 2 including cover



Washington Association of Churches

The Rev. John C. Boonstra, Executive Minister
419 Occidental Avenue South, Suite 201 Seattle, Washington 98104-2886
voice 206.625.9790 fax 206.625.9791 wac@thewac.org www.thewac.org

Jim Nolan
Puget Sound Clean Air Agency
110 Union St., Suite 500
Seattle, WA 98101

February 9, 2006

Dear Mr. Nolan:

The Washington Association of Churches supports the Community Coalition for Environmental Justice, Toxic-free Legacy Coalition and People for Puget Sound's opposition to granting Lafarge of North America's permit (#9237) to burn whole tires without appropriate safeguards to the surrounding community and protection of the environment.

We are concerned that a permit for "installation and operation of a mid-kiln whole tire injection system" for 24 months is clearly long enough to do damage to the Duwamish environment and could lead to a permanent permit at the end of the "temporary" period. Our fear is that Lafarge's tire burning operation will spew particulates and toxins - such as dioxins, polychlorinated biphenols, polyaromatic hydrocarbons, lead, zinc, chromium, and arsenic (to name just a few) - into the air of the surrounding Duwamish Basin. If PSCAA decides to approve the permit we recommend that a full range of testing be implemented throughout the trial year. Care for the environment in which we live including the air we breath is a moral imperative and one that I hope you share.

We question the adequacy of PSCAA's process that did not give the community the opportunity to hear the agency's opinions on these issues. The public comment period will be over by the time answers are forthcoming to the questions and concerns being raised. In the future it would be a more accountable process and beneficial to the public involved if PSCAA issues its answers so the public can reply in a responsible manner.

Thank you for considering these comments.

Sincerely,

Alice Woldt
Public Policy Director
Washington Association of Churches

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of these comments. However, the Agency has agreed to provide a series of community workshops about this topic (see Summary Comment 7).*

Written Comment 17 (Washington Toxics Coalition)

Dear Mr. Austin:

Please accept these comments on the proposed Lafarge North America, Inc. air permit (#9237) on behalf of the Washington Toxics Coalition. WTC is a statewide organization that works to protect public health and the environment by eliminating toxic pollution.

We are extremely concerned about the health and environmental impacts of the proposal to allow Lafarge to burn tires at their facility for the following reasons:

1. Tire burning is a source of numerous persistent toxic pollutants that are increasing in the environment and our bodies and have wide-ranging health effects.

Tire combustion is a source of many highly toxic chemicals. A plethora of highly toxic chemicals are released when tires are burned. These chemicals include dioxins, furans, PCBs mercury, cadmium, PAH's, and lead, all of which belong to a dangerous class of chemicals called persistent toxic chemicals (or PBT's). These chemicals do not break down in the environment but rather stay in the environment for long periods of time and build up in wildlife and our bodies. They are also toxic in very small doses.

Increasing evidence shows that these PBT chemicals are increasing in our bodies, homes, and environment in Washington state. Consider the following:

- A March 2005 study found thirty-five hazardous industrial chemicals, including PCBs and dioxin, in household dust from ten homes in Washington.
- A recent study found that one in five women has mercury levels higher than recommended by the US Environmental Protection Agency.
- Puget Sound has numerous PCB-contaminated sites and the Puget Sound orca has the dubious distinction of being the most contaminated marine mammal in the world due in large part to PCB and dioxin contamination.

Clearly, our bodies and environment cannot tolerate anymore of these poisons.

If Lafarge receives the proposed permit, the surrounding community will be needlessly exposed to these PBT chemicals, which can lead to serious health effects. Dioxins, furans, and PCBs are all linked to cancer and immune system problems. Mercury is a potent neurotoxin that can cause learning disabilities and birth defects. Lead is known to be toxic to the brain and nervous system and can have long-term health effects, including learning deficits and reduced IQ. In fact, scientists do not believe there is a safe level of lead for children.

2. Allowing new sources of PBTs directly violates the state's PBT Strategy, which calls for eliminating sources of PBTs in Washington State.

The Washington State Department of Ecology recently finalized a rule to implement the state's *Strategy to Continually Reduce and Eliminate Persistent Bioaccumulative Toxins in Washington State*. The purpose of the *Strategy* is to prevent new, and eliminate current, sources of PBTs in Washington state. The rule states, "[b]ecause of unique threat these PBTs pose, special attention is necessary to identify actions that will reduce and eliminate threats to human health and the environment." (WAC 173-333-100).

Dioxins, furans, PCBs, PAHs, mercury, lead, and cadmium are all classified as PBTs under the rule and thus are targeted for elimination. (WAC 173-33-310) Allowing Lafarge to burn tires will create a new source of PBT chemicals in the environment that Washington state has specifically slated for phase out.

3. Monitoring For Additional Chemicals.

In addition to those pollutants Lafarge is required to monitor (NOx, SO2, CO, O2, dioxins/furans, metals and formaldehyde), PSCAA must require Lafarge to monitor their emissions for other chemicals that may be released during tire burning. These chemicals can include carbon monoxide, chlorine, benzene,

dioxins, PCBs, PAHs, hexavalent chromium, copper, lead, mercury, lead, nickel, beryllium, xylene, toluene, phenol, mono-chlorobenzene, napthalene, formaldehyde, acetaldehyde, manganese, mercury, and zinc. Without assurances that these chemicals will not be released, it is impossible to know the full impact of the tire burning and, as a result, it would be improper to grant the proposed permit.

4. PSCAA and other state agencies should work with Lafarge to find an alternative source to tires.

To move Washington state towards the goal of eliminating toxic pollution, industries must find alternatives to processes and products that harm public health and the environment. Solutions do not lie solely in changing permit limits or other "end-of-pipe" remedies. Instead, effective solutions will require that safer manufacturing processes be developed and promoted and that safer substitutes be used in place of dangerous chemicals. PSCAA and other state agencies should establish a goal of working with Lafarge and other companies to find safer alternatives to using tires.

Thank you for the opportunity to submit comments on this permit. Please do not hesitate to contact me at 206-632-1545 ext. 122 if you have any questions or concerns.

Sincerely,

Ivy Sager-Rosenthal
Environmental Health Advocate
Washington Toxics Coalition
4649 Sunnyside Ave. N. Suite 540
Seattle, WA 98103

AGENCY RESPONSE

Please see Agency responses to Summary Comment 2, 3, and 6. The existing technical information, including some testing completed on this kiln in 1990, showed most toxic air contaminant emissions decreased in association with tire fuel substitution. Parameters not evaluated or detected in the 1990 chipped tire-fuel substitution tests completed on this kiln have been included in the scope of testing for required in Order of Approval No. 9237.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Written Comment 18 (Heather Trim/People for Puget Sound)

Dear Mr. Austin,

Thank you for the opportunity to comment on the draft Notice of Construction Order of Approval No. 9237 for Lafarge North America (Lafarge), *located at 5400 West Marginal Way SW, Seattle, WA 98106-1517. This draft Order is for the installation and operation of a mid-kiln whole tire injection system for the Lafarge Seattle plant.*

People For Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore Puget Sound and the Northwest Straits, including a specific goal to protect and restore the 2,000 miles of Puget Sound shoreline by 2015.

The health of the Duwamish River aquatic species is at risk due to pollutants entering the system from stormwater runoff, industrial discharges and aerial deposition in addition to historic

sources. Aerial deposition may be a major source for some of the pollutants. We understand that LeFarge's current permit allows the burning of tire chips, but due to market availability, a large amount of these chips has not been used.

People For Puget Sound has concerns about Lafarge's proposal to burn tires at their facility for the following reasons:

1. Overall Air Quality of the Area. Puget Sound Clean Air Agency samples indicate that the air quality in the Duwamish Basin is of much poorer quality than that of nearby Beacon Hill. Further, data from Beacon Hill air monitors show some of the highest quality air in the Puget Sound region and yet the Duwamish air monitoring stations exhibit some of the poorest air quality, especially for particulates. Part of the reason for this condition may be weather-related inversions that occur in low-lying areas. Additionally, there are major transportation corridors and significant acreage of industrial use in the basin. For this reason, facilities such as Lafarge should be required to improve, not degrade their emissions. Over time, the health of the environment will depend on tighter restrictions, not looser, for recovery, as the Puget Sound area continues to grow in population.
2. Full Chemical Suite. It is not clear that allowing the burning of whole tires at this facility will improve overall emissions for *all* chemicals. Some conventional pollutants that are monitored routinely, such as NOX and SO2, may be improved by the use of tires over coal and coke. However, a different set of chemicals may be added to the emission at unacceptable levels. A full list of the chemicals emitted by burning tires has not been provided to the public. This list might include carbon monoxide, chlorine, benzene, dioxins, PCBs, PAHs, hexavalent chromium, copper, lead, mercury, lead, nickel, beryllium, xylene, toluene, phenol, mono-chlorobenzene, napthalene, formaldehyde, acetaldehyde manganese, mercury, and zinc.

The components used to manufacture tires include a wide range of chemicals and high temperature combustion of tires has reportedly provided pathways for creation of more highly toxic species such as dioxins, furans, PCBs and PAHs. In addition, additives to the rubber in the manufacture of tires, other components such as the steel belting and products applied by consumers should also be considered.

In addition, this list of chemicals should be provided based on normal operations not "stack tests" which are sometimes optimized to provide cleaner conditions. This complete list of potential pollutants should be provided prior to a decision about a pilot test period. Such a list is not currently provided with the documentation for this facility proposal on your web page.

3. Monitoring For Additional Chemicals. Puget Sound Clean Air Agency does not appear to be requiring additional monitoring for constituents beyond Opacity, SO2, NOX, CO, O2, dioxin/furan, metals and formaldehyde. Given that there might be emissions of additional chemicals, we request that Puget Sound Clean Air Agency require additional testing to ensure that the potential chemicals listed above are not being emitted in adverse concentrations or provide documentation that these chemicals will not be emitted with this facility change.
4. Monitoring to Capture Seasonal Effects. Air data from the Duwamish Basin shows that particulate and other pollutants are higher in the winter than the summer. The pilot

testing plan should take this seasonal effect into consideration – especially for the special higher % tests proposed.

5. Facility Dioxin/Furan History. Dioxins and furans are chemicals of concern for the Duwamish Superfund Site. According to the Agency's *Notice of Construction Worksheet*, Lafarge had problems with their Dioxin/Furan Performance Testing for the past three monitoring events. They have had violations of their emission standards in recent tests leading to a concern about burning tires, which might lead to increases in dioxins and furans.
6. Lead. It is possible that increased burning of whole tires will result in higher lead emissions. The emission of lead is predicted to rise with the new tire burning allowance. Recent studies have shown that no safe threshold for lead levels in the blood. In other words, any amount of lead is a potential hazard to a developing child. Environmental exposure to lead in early childhood is associated with an increased risk of reading problems and school failure.
7. Cumulative Impacts. We are concerned about the combined effects of multiple pollutants from the many facilities in the area. Puget Sound is subject to inversions that make our air quality stagnant for long periods of time and may exacerbate cumulative impacts.
8. Map. Map showing the plume fallout area. A detailed map that shows the fallout of all chemicals from the facility is not provided in the documentation on the web page. Even a schematic map would be helpful at this point to understand the impacts of the change of operations at this facility.
9. Percentage of Tires Proposed. It is not clear if Puget Sound Clean Air Agency intends to allow the burning of more than 20% or 40% Btu after the initial test period. If so, then additional testing at higher percentages should be required before a final permit is issued.
10. HCl. Recent media reports have described a chlorine smell possibly associated with Lafarge. HCl, hydrogen chloride gas, is toxic to folks who are exposed to large doses and is a concern for people with already compromised health issues, like asthma. A California Air Resources Report (2005 Report on Air Emissions from Waste Tire Burning in California, July 1, 2005) shows that there are significant releases of HCl from burning tires. Three cement facilities that burned tires as part of their fuel (usually only 10% of the fuel) each released between 1,075 and 2,271 pounds of HCl in 2003. Although HCl doesn't cause cancer, it can cause and aggravate new respiratory, skin, and other body conditions.

Overall, we feel that human health impacts for the residents in the surround community as well as aerial deposition on the ground surface that then gets transferred to the Duwamish through urban runoff and stormwater must be addressed. Although conventional pollutants such as NOX might be decreased, we are concerned about the suite of chemicals that might be emitted and are of concern for the Duwamish River. If you have any questions, please call me at (206) 382-7007 X215.

Sincerely,

Heather Trim
Urban Bays Program

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

With respect to the overall air quality in the Puget Sound as illustrated by monitoring data, it is important to remember that the scope of our review for NOC Application No. 9237 is the request by Lafarge to substitute whole tires at mid-kiln for coal as a fuel option for making cement. We evaluate the emissions changes from the proposal; consider whether "best available control technology" is being used for those that increase; determine if the modification will comply with existing orders, operating permit terms, and regulations; and evaluate the emission increases against ambient air impact criteria. The desire to reduce emissions from this specific source to support larger area air quality interests is not achievable through this one review, especially since the monitoring data for the Duwamish indicates that it is currently meeting ambient air quality standards. The Agency is not concluding that air quality improvements in the Duwamish area are unnecessary or undesirable. It is a larger issue than whether or not Lafarge should be allowed to pursue this fuel substitution. The same is true for consideration of cumulative impacts of multiple sources of pollutants in the area, which includes point sources, area sources, and mobile sources.

Comments are noted regarding maps and modeling information showing impacts. A graphical representation of modeling information is not a requirement to complete the NOC review, but the Agency will take that suggestion (and others we receive in the future) into account to guide development of information and materials for the community workshops discussed in the response to Summary Comment 7.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Written Comment 19 (Jerzy Gaciarz)

I don't agree with plan to burn whole tires as part of the fuel mixture. I am avid bicyclist (bicycle everyday to work). Air pollution is very bad right now. PLEASE DON'T IMPLEMENT THE PLAN.

THANK YOU,

Jerzy Gaciarz, Seattle

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of the comment.*

PUBLIC HEARING COMMENTS

Public Hearing, January 24, 2006
South Park Neighborhood Center
8201 10th Avenue S, Seattle

Hearing Comment 1 (Opening Statement, Mike Depew/Lafarge)

The kiln currently is permitted to burn chipped tires up to 20% in the fuel end of kiln.
This project is for the addition of whole tires being added mid-kiln with testing.
Lafarge agrees with the temporary permit.
TDF (Tire Derived Fuel) is a lower emission alternative compared with coal and petroleum coke.
The burning of tires reduces the amount of coal and coke used in the kiln.
The burning of tires also produces an energy savings by not burning so much coal.
TDF is used in Washington state as a fuel.

AGENCY RESPONSE

Comment noted.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 2 (Olga Addae)

Not impressed with Lafarge's community commitment from my past experience.
Will VOCs be measured in the ambient air?
Requests that Lafarge's permit contain a required timeline with expiration dates.
Why does the community have to wait in order to pinpoint carcinogens?
The odorless chemicals are toxic.
What are the guarantees to the community that there will not be toxic impacts?
What is the timeline for this project.
The emissions of VOCs are the biggest concern.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

The permit term included in Order of Approval No. 9237 covers approximately two years of elapsed time. If Lafarge does not have complete applications to the Agency by December 30, 2007, then Order of Approval No. 9237 will expire at that time. If complete applications have been received by that date, then the Order of Approval No. 9237 would continue in effect until the Agency took final action on the applications (either to approve with specific conditions or deny with reasons specified for the denial).

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Hearing Comment 3 (Bob Anderson)

Concerned that there was inadequate environmental review for the determination of non-significance (DNS). The Draft Worksheet Page 15 e-mail from Russ Simonson of Lafarge says there are some potentially significant impacts that do not appear to be evaluated.

States that there are possible increases expected in the emissions of carbon monoxide (CO).
States that in reading the worksheet he is confused about the terminology of "Best Available Control Technology" (BACT) and "Reasonably Available Control Technology" (RACT). He indicates that if BACT is better than RACT, the Agency should require BACT instead of requiring RACT. He likes the BACT option.
Agency should require as much control technology as possible.
He says that there should be a way to have both good jobs as well as having a clean environment.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

In the application materials, Lafarge discussed the definitional language about modifications in the Prevention of Significant Deterioration (PSD) permit program. The conditions in Order of Approval No. 9237 will require collection of CO emission data to evaluate the increase associated with whole tire injection. If a CO emission increase from the whole tire injection activity was determined to be "significant" (as defined by PSD regulations, which would be 100 tons/year), then Lafarge would need to obtain a PSD permit for that increase or would have to meet operational and/or emission limitations to clearly demonstrate the inapplicability of the PSD permit program. The possible increase in CO emissions from the whole tire injection will be documented through the testing and monitoring requirements in Order of Approval No. 9237. The follow-up NOC application review (if requested by Lafarge) will evaluate this PSD applicability question based on site-specific data developed through compliance with Order of Approval No. 9237.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 4 (Marrem Carroll)

Lafarge's credibility is the biggest issue for her.
The Agency should not let Lafarge monitor themselves.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 5 (Joel Clement)

Want to hear that Lafarge is committed to being a good neighbor.
The Agency should require a very thorough suite of tests.
Lafarge should use a scrubber to control pollution.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 6 (Bob Cronn)

Lafarge seems to think they're doing the environment a favor.
There are more environmentally friendly ways of working rather than burning tires.
There are a plethora of toxics chemicals.
Lafarge is just trying to save money and cut their costs.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 7 (Ray Ensigr)

It is the responsibility of Lafarge to do business while not harming people.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 8 (M. C. Halvorsen)

Does the clean Air Agency use other Agencies?

(Jim Nolan, Agency Compliance director -- Most referenced information is from other Agencies throughout the U.S.).

During the testing of tire firing, why doesn't Lafarge have scrubbers to trap gases and neutralize the odors?

(Jim Nolan -- There is a difference between stack emissions from Lafarge and the ambient air which Lafarge does contribute to, but all other sources also are part of the general mix too.)

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 9 (Beth Lynch)

(She read her written comments contained in her e-mails to the Agency (dated 1/22/06)
Referenced an EPA study (EPA 600/R-97-115).
Cites the study as showing an increase in PNAs, tested for aromatic hydrocarbons.
Lafarge's final goal is 40% tires usage.
The Lafarge NOx & CO CEMs are not certified.
How will the results of the study be reported?
Lafarge failed two dioxin tests and reported 27 upset events as of Sept 2005.
Lafarge's application listed 7 metals as non-hazardous that are on the ASIL list.
Odors are still a problem.
There was a 11/17/05 warning issued to Lafarge.
The open path monitors should be operated during this period and 34 target compounds should be monitored (see report above).
(FLA - EPA 600/R-97-115 page 5 lists 34 compounds Table 2 Semi-Volatile Organic)
Should install a PM monitor in Riverview, one is in South Park now.
Lafarge should consider other techniques for NOx emission (reductions) such as low-NOx burners that the Texas Commission on Environmental Quality study has a feasibility study for SCR and LoTOx technology that can reduce NOx up to 85% in wet and dry kilns.

AGENCY RESPONSE

Please see Agency responses to Summary Comments and responses to Written Comments 4, 5, and 6.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Hearing Comment 10 (Karmen Martin)

Not a lot of confidence in company
Environmental Checklist concluded there were no health effects. How did we come to that conclusion?

AGENCY RESPONSE

Please see Agency responses to Summary Comments and responses to Written Comments 10 and 11.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 11 (Karmen Martin)

The SEPA document is inadequate for evaluating health risks.

AGENCY RESPONSE

Please see Agency responses to Summary Comments and responses to Written Comments 10 and 11.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 12 (Tim McNeil/South Park Neighborhood Association)

There are still very annoying odors in the community.
Comment concerning conclusion of RTP expert report that in the end PSCAA found that Lafarge was not correct and did potentially contribute to some of the odors.
The main issue is the credibility of Lafarge at this time.
The community wonders if Lafarge is really on board with being good environmental stewards.

AGENCY RESPONSE

To put the odor issues in perspective, it may be helpful to explain some of the history on this issue and how the Agency has worked on it. Beginning in the summer of 2002 we began receiving complaints from residents of the South Park, Georgetown, Beacon Hill, White Center, Burien, Highland Park, and Fauntleroy areas of Seattle regarding a chlorine or bleach type odor. Our inspectors responded to these complaints and attempted to verify the intensity of the odor and the source of the odor. But as often happens in these types of cases, the odor had usually dissipated before the inspectors arrived.

We initially investigated possible sources of chlorine releases in the south Seattle area. We contacted the Seattle Fire Department to identify potential industrial users of chlorine in the Duwamish area. This was not fruitful, because most industrial uses of chlorine have been phased out. We contacted King County Metro and investigated if they were using chlorine in the sewer lines that run through these communities

or if they had evidence of any illegal discharge into the sewers that could result in chlorine being released into the air. Our investigation showed that it was not technically possible to have a chlorine release in the area where we were receiving complaints because the sewer lines were force mains. We also contacted Seattle Public Utilities to determine if there could be chlorine releases from drinking water treatment. Our investigation showed that this was not the source of the odor.

We also investigated the possibility that the odor is not chlorine or bleach, but rather ammonia. Ammonia can have the sharp irritating effect described by the complainants and is commonly used as an industrial refrigerant in cold storage facilities. There are a number of these in the Duwamish area that could be leaking ammonia. We contacted the Seattle Department of Construction and Land Use and inspected all the facilities in the Duwamish that store large quantities of ammonia to determine if they were the source of leaks. We did not find any facility that had ammonia leaks.

We did find one source of odor in the South Park area. We issued a Notice of Violation to Industrial Container Services for an odor complaint we received from the Concord St Elementary School in October 2002. This facility cleans and recycles 55 gallon metal drums. We found them to be using a coating that releases a triethylamine odor which impacted the school. We ordered them to install additional emission controls and make improvements in their process to prevent future occurrences. These actions are complete. However, this is not the only odor source impacting the Beacon Hill, West Seattle or the general South Park community. The only remaining likely source of the odor, based on meteorology, was Lafarge Cement. This facility is about 2 miles away from the complainants.

While the Lafarge Cement plant has been in operation for almost 40 years without odor complaints, the wind direction during the complaints was consistently from their direction. In fact, from late October 2002 through late November 2002, the number of complaints decreased when the Lafarge Cement plant was down for maintenance. In November 2002, Lafarge hired an air quality engineering firm familiar with cement plant operations to evaluate possible changes to the cement manufacturing process that could have resulted in these odors.

In February 2002, we issued a Notice of Violation to Lafarge for odors from their facility that impacted the FBI field office on East Marginal Way. In this case we had evidence that Lafarge was the source of the odor because we could visually see the plume impacting the complainants. As part of their response to the Notice of Violation, Lafarge submitted the findings of their consultant that showed that any chlorine or chlorinated compounds released from the plant were below odor thresholds. The report, however, also showed that at times the Lafarge plume does touch down in the community. When the plume reaches the ground, the nitrogen oxides (NO_X) were above the odor threshold.

We were convinced that the odor events occurred when Lafarge experienced kiln upsets, which resulted in a brown, tea-colored plume caused by NO_X. Therefore, we ultimately settled the case through an agreement with Lafarge that they install a computer-based system to operate the kiln to reduce the possibility of operator error and eliminate the NO_X spikes. The installation of the system is currently underway.

The Agency believes that the proposal to inject whole tires at mid-kiln as a fuel substitution option may provide additional NOX emission reductions. The computer-based system to operate the kiln should stabilize operations. The potential benefit of whole-tire injection should be a reduction beyond the kiln stability benefits.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Hearing Comment 13 (Debarah McNeil)

We live in South Park by choice. We like the close industrial and residential mix. Everyone needs to breathe the air and we want to have the healthiest air for everyone.
In the South Park, the industrial businesses are close to population so they need to take responsibility.
Lafarge needs to develop a framework of understanding with the community.
They need to take proper steps to do this project.

AGENCY RESPONSE

Please see Agency responses to Summary Comments.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 14 (Nate Moxley/CCEJ)

Lafarge has an older type of kiln.
There are other alternate uses for tires besides burning such as roads.
Kiln disruptions causes odors.
It would be easier to trust Lafarge if they said they were trying to save money.
Should test all the toxic metals and toxic organics.
Need to spend money on newer technology and better emission controls.
Supports Lafarge using the waste slag brought from Korea.
Like to see the Agency conduct the source testing.
Looks for tests to include a full spectrum of toxics including benzene.
The emissions of dioxin and metals are also a concern.
There should be a long period of time for testing for a longer period of time.
Requests that the Agency do open-path monitoring at the same time.
The testing is too limited.

AGENCY RESPONSE

Please see Agency responses to Summary Comments, especially Summary Comments 2, 5, and 7. The request that the Agency conduct the source testing would not lead to better data for this effort. The Agency no longer has any sampling equipment and has not actually done any source testing directly (with Agency staff) in many years. The testing required by the approval conditions in the proposed order will be completed by third-party, professional source testing firms with existing working relationships with analytical laboratories to support the testing. The Agency's role in the testing process is to review plans, observe the testing in the field (looking for both test-method validity and for representative source operation), and review the submitted test reports to check the work and results. This process is normal for all compliance testing done in the Puget Sound Clean Air Agency jurisdiction.

Conclusion: *The Agency made no changes to the draft Order of Approval No. 9237 as a result of these comments, though changes were made as a result of similar comments referenced in the response.*

Hearing Comment 15 (Nate Moxley/CCEJ)

Please extend the comment period until 2/10/06.

AGENCY RESPONSE

Public comment period was extended from February 1, 2006 to February 10, 2006 as requested.

Hearing Comment 16 (Daniel Snook)

Lafarge supports working families.
Portland cement industry is an important industry in our region.
There is now a real shortage of cement that is needed for construction projects.
Lafarge should use tires to continue making cement as long as they keep the process clean.
This region needs to support heavy industry to keep jobs in this area.

AGENCY RESPONSE

Comment noted.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 17 (Aaron Stevens)

Understand there are other sites in the Duwamish that burn tires, is that true?

(Jim Nolan -- Ash Grove also burns tires.)

What about the impacts of two plants in the same air shed, doesn't the additional use of tires at Lafarge just add to the total mix?

AGENCY RESPONSE

Please see Agency responses to Summary Comments and response to Written Comment 18.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 18 (Alyssa Stevens)

More air monitors in South Park until the odor issues can be figured out.

AGENCY RESPONSE

Please see Agency responses to Summary Comments, especially Summary Comment 4.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*

Hearing Comment 19 (Closing Statement, Mike Depew/Lafarge)

Restate Lafarge's commitment to compliance.
Invite the community to contact Lafarge directly with comments or concerns/complaints.

AGENCY RESPONSE

Comment noted.

Conclusion: *The Agency made no changes to draft Order of Approval No. 9237 as a result of this comment.*