

## **RESPONSIVENESS SUMMARY**

**Lafarge Building Materials, Inc.  
Application for Tire Derived Fuel (TDF)  
DEC No. 4-0124-00001/00112**

Lafarge Building Materials, Inc. ("Lafarge") is proposing to use tire derived fuel (TDF) as an alternative fuel at its cement manufacturing facility located on Route 9W in Ravena, New York. The Lafarge facility in Ravena produces approximately 2 million tons of cement per year. The cement is distributed throughout the east coast of North America. Lafarge has submitted an application to (i) modify its existing Title V Air Facility Permit to add TDF to its currently approved list of solid fuels which includes coal, petroleum coke and fuel oil used as energy for its cement kilns and (ii) modify its existing Part 360 Solid Waste approvals to allow for the storage, handling and use of tires as fuel. The storage and handling of the TDF would be covered under a Part 360 solid waste tire storage facility permit and the use of the tires as fuel would be covered under a Part 360 Solid Waste Beneficial Use Determination ("BUD"). A Part 360 variance is sought that would allow any rims on tires to not have to be removed until tire storing instead of within one week of receipt.

The New York State Department of Environmental Conservation ("DEC") issued a Notice of Completion on July 15, 2005. The Notice was published in the State Environmental Notice Bulletin on July 20, 2005 and in the Times Union on July 22, 2005. The Notice of Completion was published (posted) in the Environmental Notice Bulletin on July 27, 2005 to clarify the location of the A.W. Becker Elementary School, the site for a public information session. The Notice stated that there would be a public information meeting on August 4, 2005 and a legislative hearing on August 25, 2005. The public comment period was scheduled to end September 2, 2005.

DEC issued a revised Notice of Completion on August 1, 2005 extending the public comment period until October 3, 2005. A second public information meeting was scheduled for September 14, 2005 and a second legislative hearing for September 21, 2005. The Notice was published in the Environmental Notice Bulletin on August 24, 2005 and in the Times Union on August 27, 2005.

The application and draft permit were available for review at the Department of Environmental Conservation's Region 4 office, the Ravena Coeymans Selkirk Community Library and the Castleton Public Library.

DEC received oral testimony at the legislative hearings on August 25 and September 21, 2005. The following is a summary of the public comments received in writing during the public comment period as well as the oral comments received during the two legislative hearings.

This responsiveness summary represents the Department's response to the comments received. Where the Department is in agreement with the responsiveness summary submitted by the applicant, Lafarge Building Materials, Inc. dated October 19, 2005, the Lafarge response has

been incorporated into this document.

**Oral Comments were received from:**

Warren Collins, Resident  
Phil Howlinger, Resident  
Langdon Winner, Resident  
Susan Falzon, Friends of Hudson  
Matthew Winner, Resident  
Sean Cummings, Resident  
Linda Marshall, Resident  
Mark Teague, Resident  
Thomas Ellis, Citizens Environmental Coalition  
Judy Greenberg, Resident  
Naomi Rubin, Resident  
Elizabeth Croft, Resident  
Ned Depew, Resident  
Sam Pratt, Friends of Hudson  
Bob Richardson, Resident  
Bob Hendricks, Mayor, Village of East Nassau  
Laura Lee Ross, Resident  
Rich Schiafo, Scenic Hudson  
Marsha Blackman, Resident  
Susan Lawrence, Sierra Club Hudson Mohawk Group  
Dan Spilman, Resident  
David Vahue, Lafarge Building Materials  
Jonathan Donaldson, Resident  
Elizabeth Davis, Resident  
Jeff Baker, Young, Sommer, Ward, Ritzenberg, Baker & Moore  
Ira Marks, Resident  
Ronald Hotaling, Supervisor, Town of Coeymans  
Anne Evans, EER Limited  
Samuel Spivy, Resident  
John Flynn, Resident  
Lenny Collins, Kinderhook Town Board  
Karen Vetrano, TRC Environmental Corporation  
Lee Jamison, Resident  
Jennifer Arenysen, Resident  
Wayne Dunbar, President United Steelworkers Local 4-429  
Peter Donahue, Resident  
Abbey Cul, Resident  
Lawrence Klein, Resident  
Peter Clouse, Albany County Legislature  
Mike Remsberg, Trinity Consultants  
Kevin Kuenster, Resident

Judith Grunberg, Resident  
Theodore Gutbridge, Resident  
Allen Schaefer, Kinderhook Neighbors for Good Growth  
Sally Soul, Resident  
David Lewis, Supervisor, Town of New Baltimore  
Ken Hummel, Town of Stuyvesant Town Board  
James Travers, Resident  
Roger Downs, Resident

**Written Comments were received from:**

Doug McGiveny, Supervisor, Town of Kinderhook  
Ned Sullivan, Scenic Hudson  
Jennifer Phillips, Bard College  
Marsha Doyle, Resident  
Tom Jaffe, Resident  
Jesse DeGroot, Supervisor, Town of Chatham  
Nancy Jane Kern, Resident  
Gunnel Reznikoff, Resident  
Susan Falzon, Friends of Hudson (forwarding on-line and paper petition with approx. 1,189 names)  
Kathleen Rice, Resident  
Lisa Zimmerman, Resident  
Wayne Sansbury, Resident  
Vicki Wright, Superintendent of Schools, Ravena Central School District  
Jeffrey Baker, Young, Sommer, Ward, Ritzenberg, Baker & Moore (including comments from  
Camp, Dresser & McKee and on behalf of Friends of Hudson)  
James Dunham, Mayor, Kinderhook  
Anne Evans, EER Limited  
Gregory Olsen, Resident  
William Counihan, Resident  
Ruth Pierpont, New York State Office of Parks, Recreation and Historic Preservation  
Robert Henrickson, Mayor, East Nassau  
Martin Overington, Resident  
Alex Sagady, Alex J. Sagady & Associates  
Margot Curran, Resident  
John Pickett, Resident  
David Louis, Supervisor, Town of New Baltimore  
Lisa Deyo, Resident  
Denise Carson, Resident  
Martin Reid, Vice-Chairman of the Legislature, Rensselaer County Legislature  
Margaret VanDeusen, Vice-Chair of Finance, Rensselaer County Legislature  
Edward Swartz, Rensselaer County Legislature  
Michael Blumenthal, Rubber Manufacturers Association  
Sarah Westwind, Resident  
Jeffrey Lick, Resident

Emily McCully, Resident  
Nancy Perry, Village of Castleton-on-Hudson  
Marilyn Wurth, DEC correspondence to Jeff Baker (with attached air modeling data)  
Langdon Winner, Rensselaer  
Karen Jacobsen, Resident  
David Wicks, Patroon Abstract Corp.  
Jonathan Donald, Resident  
Valerie Bertram, Supervisor, Town of Stuyvesant  
Richard Blumenthal, Attorney General, Connecticut  
Paul Swedenburg, HAVE, Inc.  
Steve Smith, Resident  
Emily Gershberg, Resident  
Margaret Cashen, Resident  
Jack Gershberg, Resident  
Nancy Ploeger, Resident  
Nancy Perry, Resident  
Margaret Cashen, Resident  
David Rubel, Agincourt Press  
Ernie Caramanico, New York Tire Dealers Association  
Jim Goold, Resident  
Samuel Pratt, Resident  
David Root, Resident  
Barbara Smith, Resident  
Sarah Saul, Resident  
Scott Fein, Whiteman Osterman & Hanna LLP  
Jude Catalano, Connecticut Department of Environmental Conservation  
Andrew Mangan, United States Business Council for Sustainable Development  
John Reagan, Lafarge Building Materials, Inc.  
Sally Drummond, Resident  
Michael Brown, Resident  
Richard Tracey, Tracey Welding Co.  
Julie Harhart, Commonwealth of Pennsylvania  
Lisa M. Boscola, Senator, Pennsylvania  
John Stonich, Resident  
Steven Riva, EPA Region 2  
Wayne Dunbar, President United Steelworkers Local 4-429  
David Vahue, Lafarge Building Materials  
Caleb Wistar, Resident  
Ilana Wolfe, Resident  
Eileen Brownell, Resident  
John Payne, Warren Tire Service Center  
Samuel Spivy, Resident  
Ralph Bombardiere, New York State Association of Service Stations & Repair Shops, Inc.  
Stephen Colfels, Resident

Michael Arkin, Resident  
Charles Dent, Congress of the United States  
Matthew Asbornsen, Resident  
Erin Edwards, Resident  
Laura Lee Ross, Resident  
Nicholas Gerli, Resident  
Alena Gerli, Resident  
Arleen Sukup, Resident  
Joseph Sukup, Resident  
Charles Gerli, Resident  
Patricia Feuerbach, Resident  
Warren Berger, Sierra Club Atlantic Chapter  
Norris Smith, Resident  
Daniel Spilman, Resident  
Ann Birckmayer, Resident  
Barbara Docktor, Resident  
James Travers, Resident  
Manna Jo Greene, Hudson River Sloop Clearwater (also attaching copy of Friends of Hudson comments entitled "Pubic Hearing on Lafarge Tire Burning Proposal")  
Moisha Blechman, Citizens for Healthy Environment  
Peter Jung, Resident  
Victoria Dougherty, Resident  
Thomas Adcock, Resident  
Alexandra Anderson-Spivy, Resident  
Jock Spivy, Resident  
Karen Hummel, Resident  
Kenneth Hummel, Stuyvesant Town Councilman  
Sam Sebren, Resident  
William Knox, Resident  
Pat Sterling, Resident  
Hilary Hillman, Resident  
Christopher Reed, Resident  
Amy Erickson, Resident  
Robert Murdock, Resident  
Dez Ryan, Resident  
Anne Mulderry, Resident  
Enid Futterman, Resident  
John Patrick Doyle, Resident  
Louise Frazier, Resident  
Catherine Kirkland, Resident  
Wolfgang Rohrs, Resident  
Steven Cohen, Resident  
Carolyn Stern, Resident  
Maureen O'Shaughnessy, Resident

Kate Cohen, Resident  
Christopher Reed, Resident  
Hannah Hanani, Resident  
Susanne Davino, Resident  
S.E. Bellinger, Resident  
Harry Franklin, Resident  
Laura Simon, Resident  
Tom Buckner, Resident  
Andrew Rieser, Dutchess Community College  
Ellen Thurston, Resident  
Nancy Gordon, HAVE, Inc.  
Margaret Davidson, Resident  
Donald Hegeman, Resident  
Wendy Ide Williams, Resident  
Lisa Durfee, Resident  
Charles Flood, Resident  
Kristin Gamble Flood, Resident  
Nina Sklansky, Resident  
Matthew Winner, Resident  
Lael Locke, Trustee, Village of Chatham  
Cindy Giammattei, Resident  
Elizabeth Nyland, Resident  
David Graper, Resident  
Roger Koslowski, Resident  
Diane Koslowski, Resident  
R.O. Blechman, Resident  
Matthew Locricchio, Resident  
Jonathan Donald, Resident  
John Smaligo, State Representative, Oklahoma House of Representatives  
Ronald Hotaling, Supervisor, Town of Coeymans  
Kate McLeod, Resident  
Elizabeth Davis, Resident  
Jesse DeGroot, Supervisor, Town of Chatham  
Sarah Guthridge, Resident  
Christian Sweningsen, Resident  
Kristina Kwacz, Resident  
Judith Sherman, Resident  
Mary Evans, Resident  
Richard Farley, Resident  
Judith Grunberg, Resident  
Mary Shimkin, Resident  
Morgen Bowers, Resident  
Margreta von Pein, Resident  
Jeanne Bergen, Resident

Agi Clark, Resident  
Susanna Betzel, Resident  
Patrick Manning, Member of Assembly, The Assembly of the State of New York  
Johanna Albrecht, Resident  
Richard Donovan, Resident  
Jay Shulman, Resident  
John Davis, Resident  
David Kassel, Resident  
Eric Valdina, Resident  
Jean Giblette, High Falls Gardens  
Rich Kraham, Rich Kraham Design and Columbia Memorial Hospital  
Joanne Vilaghy, Resident  
Roderic Blackburn, Resident  
Jo-Ann Segal, Resident  
Charlene Paden, Resident  
David Byrd, Solo Graphics  
Robert Baksa, Resident  
Donna Knoll, Resident  
Alvin Knoll, Resident  
F. Wayne Everingham, Resident  
Lillian Everingham, Resident  
Louise Pillai, Resident  
B. J. Best, Resident  
Ira Marks, Resident  
Mario Spaandetti, Whitehall Environmental Advisory Council  
Nora Adelman, Resident  
Jack Gershberg, Resident  
Donna Davey, Resident  
Naomi Rubin, Resident  
Karla Kavanaugh, Resident  
Robert Pagnani, Resident  
Betty Pagnani, Resident  
Michael Arkin, Resident  
Theresa Parsons, Resident  
Todd Parsons, Resident  
Herbert Morris, Resident  
Robert Huston, Resident  
Ric Fry, Resident  
Karen Malina, Resident  
Michael McNessor, Resident  
Marcie Gardner, Resident  
Wendy Noyes, Resident  
Tempe Croke, Resident  
Rebecca Greer, Greer Editorial Services

Janet Angelis, University of Albany  
Jody Schoenfeld, Resident  
Sheldon Evans, Resident  
Perry Cooney, Resident  
Alana Hauptmann, Resident  
Mary Vaughn Williams, Resident  
William Hellermann, Resident  
Margaret Hopper, Resident  
Martha McMaster, Resident  
Paul Motto, Resident  
Beth Knauf Secor, Supervisor, Schodack  
Cynthia Richardson, Resident  
Robert Richardson, Resident  
Kelton Vosburgh, Resident  
Eileen Vosburgh, Resident  
Janet Foley, Resident  
Sheri Bauer-Mayorga, Resident  
Ardal Powell, Resident  
Kathryn Dunham, Resident  
Victoria Moran Caluneo, Resident  
Carole Osterink, Resident  
Iona Lutey, Resident  
Virginia Martin, Resident  
Diana Lebar, Resident  
Edward Lebar, Resident  
Diane Whelton, Resident  
Irene Young, Resident  
Don Guarino, Resident  
Mary Hamilton Howard, Resident  
Christy Collins, Resident  
Ingrid Greenfield, Resident  
Joan Ross, Resident  
Sarah Howard, Resident  
Richard Zaranko, Resident  
Mitchell Gaynor, Weill-Cornell Medical College  
Roberta Reynes, Resident  
Barbara Bennett-Calkins, Resident  
Mark Calkins, Resident  
Carol Hargis, Resident  
Edith Kinsman, Resident  
Robert Potrzeba, Resident  
Richard Vincent, Resident  
Donna McGrath, Resident  
Dorian Solot, Resident

Julie Kabat, Concerted Effort, Inc.  
Marshall Miller, Resident  
Jeff Monkash, Resident  
Mark Litteken, Resident  
Rich Schiafo, Scenic Hudson  
Catherine Dodge Smith, Resident  
Jennifer Cegielski, Resident  
Carl Davino, Resident  
Edwin Keil, Resident  
Deborah Keil, Resident  
Ann DeCaprio, Resident  
John Knott, Quadrille and NY Designer Fabric Outlet  
Name illegible  
William Matson, Resident  
Alexander Gordon, County Legislature 39<sup>th</sup> District  
Richard Blumenthal, Attorney General, State of Connecticut  
Ned Depew, Resident  
Ralph Bombardiere, New York State Association of Service Stations & Repair Shops,  
Inc.  
Bill Howard, Wildlife Habitat Council

## **A. Comments Related to Air Emissions**

### **1. Air Quality and Public Health Impacts Comments**

**Comment 1:** *Commenters cited air quality concerns from emission increases of various air toxics from the proposed project which would result in adverse impacts on public health and the environment. The Commenters raised concerns regarding emission increases in toxic emissions including heavy metals such as cadmium, zinc, mercury, lead, arsenic and PCBs, benzenes, particulate matter, volatile organic compounds, dioxins and furans and other tire constituents that will have impacts on health and the environment. Some of these are not regulated. Health impacts cited included cancer, Parkinson's, asthma, breast cancer, IQ, rheumatoid arthritis, lupus, and others. Vegetation, rivers, fish and wildlife will be polluted. School children and the elderly will be impacted most. (Collins, Winner, M. Winner, Falzon, Cummings, Ellis, Depew, Ross, Schiafo, Lawrence, Rubel, Curran, Donald, Jacobsen, Perry, McCully, Lick, Westwind, Carson, Pickett, Overington, Henrickson, Olsen, Zimmerman, Rice, Kern, Phillips, Jaffe, Donaldson, Sansbury, Spivy, Richardson, Cofels, Asbornsen, Edwards, Spivy, Schiafo, Jamison, Arenysen, Donahue, Cul, Klein, Gutbridge, Schafer, Soul, Travers, Feuerbach, Berger, Docktor, Greene, M. Blechman, Jung, Dougherty, Adcock, Hummel, Sebren, Knox, Sterling, Hillman, Reed, Murdock, Ryan, Frazier, Kirkland, Rohrs, Simon, Rieser, Thurston, Durfee, C. Flood, K.*

*Flood, Sklansky, Dunham, Locke, Giammattei, Nyland, Graper, Koslowski, R. Blechman, Reed, Pickett, Locricchio, Donald, McLeod, Davis, Gordon, Sherman, Jamison, Farley, Bowers, Von Pein, Bergen, Betzel, Albrecht, Donovan, Vilaghy, Kassel, Giblette, Kraham, Blackburn, Segal, Paden, Baksa, Knoll, Adelman, Gershberg, Davey, Kavanaugh, Parsons, Fry, Malina, McNessor, Gardner, Noyes, Greer, Angelis, Cooney, Hauptmann, Williams, Hopper, Vosburgh, Foley, McMaster, Motto, Bauer-Mayorga, Powell, Dunham, Osterink, Lutey, Martin, Whelton, Guarino, Collins, Greenfield, Ross, Howard, Zaranko, Gaynor, Reynes, Calkins, Kinsman, McGrath, Solot, Kabat, Miller, Monkash, Litteken, Smith, Cegielski, DeCaprio, Knott)*

**Response:** As part of the state environmental quality review process for the proposed Title V permit modification the Department of Environmental Conservation (the Department) conducted an Air Guide-1 analysis (DAR -1) to assess the potential for adverse public health impacts.<sup>(1)</sup> An Air Guide 1 analysis is a conservative public health risk screening tool created and used by the Department for the assessment of the risk posed from the inhalation of ambient air toxics. The Air Guide 1 process involves the identification and determination of the emission rates of air toxics emissions from the source under review, the dispersion modeling of the air toxic emissions to predict annual and short-term impacts, and the comparison of these predicted impacts to numerical guidelines which were developed to be protective of public health.

Lafarge (the applicant) conducted an Air Guide-1 evaluation in accordance with the Department's policy to assess the potential public health impacts associated with the proposed modification (the use of tire derived fuel) of the Ravenna facility. With respect to air emissions upwind or downwind from the Ravenna facility in terms of ambient air quality impacts, particularly downwind, the dispersion modeling of the air toxic emissions was conducted by Lafarge per Appendix B of the DEC Air Guide-1 policy. This analysis provides a very conservative estimate (i.e. tends to over predict) of ambient impacts irrespective of wind speed or direction or specific location. It simulates impacts as if all locations are downwind of the facility. The results provided by the applicant and verified by the Department indicated that the emissions impacts were predicted to be below 10% of the applicable health based annual guideline concentrations (AGCs) and short-term guideline concentrations (SGCs) used by the Department to assess public health impacts.

In addition, the Department conducted a more refined dispersion modeling analysis using the EPA ISCLT2 model and predicted lower maximum

emission impacts which were less than 1% of the applicable health based annual guideline concentrations (AGCs) and short-term guideline concentrations (SGCs) used by the Department to assess public health impacts. In summary, the dispersion modeling indicates that the predicted impacts of all the metal emissions are considerably below the SGCs/AGCs even when considering the worst-case scenario and maximum potential impact. Following permit issuance, baseline stack test emissions (without TDF) will be compared to required stack test emissions (with TDF) to further verify the predicted emissions and ambient impacts.

The AGCs and SGCs contained in Air Guide-1 were developed to be protective of public health and are based upon the most recent toxicological information currently available. These values were updated after a comprehensive review by the Department and the New York State Department of Health (NYSDOH) in December 2003. The SGCs were developed to protect the general population from one hour exposures that can result in adverse acute health effects. The AGCs were developed to protect the general population from annual exposures which can result in adverse chronic health effects that include cancer and non-cancer endpoints. These guidelines are very conservative and are intended to protect the general public including sensitive subpopulations from adverse health effects that may be induced by exposure to ambient air contaminants. The procedures which are used by the Department to derive these guidelines are contained in Appendix C of the DEC Air Guide-1 policy.

**Comment 2:** *Commenter expressed concern regarding the lack of information to assess the public health and environmental impacts of the project on the population of western Connecticut, including how TDF emissions were derived and the need for a complete analysis, including appropriate air modeling to assess Connecticut. (Blumenthal)*

**Response:** This information about how the TDF emissions were derived is provided in the application. Emission estimates were derived in accordance with state and federal regulations. See Volume 1 dated November 13, 2005 containing the Title V application and supporting information and Volume 2 containing emissions information from other facilities using TDF. In addition, background information on the project and the Department's public presentations on the project which provided an overview of the permit modifications and the Department's analysis of the public health impacts were discussed and provided to the Connecticut Department of Environmental Protection (CTDEP). In addition, see the Department's response to comment 1 on how the potential public health impacts on the general population were addressed. The guidelines (SGCs and AGCs) used by the Department are as stringent or more stringent than the hazard limiting

values (HLVs) used by the CTDEP to address public health impacts associated with the permitting of air pollution sources in Connecticut.<sup>(2)</sup> In summary, the Department does not expect adverse impacts on public health and the environment as a result of this project for the residents of New York or Connecticut.

**Comment 3:** *Commenter requested that DEC provide the sources and methodologies DEC is using to evaluate the claims and statements made by Lafarge in the application so they can be independently verified and researched. (Depew)*

**Response:** An applicant is required to submit emissions information as part of its permit application. Much of Lafarge's data was based on a baseline stack test which had protocols reviewed and approved by the Department. The Department also observed the baseline stack test. The tests utilized were largely based on testing methods developed by EPA to ensure data accuracy and representativeness. Other data was from continuous emissions monitors at the Ravena Plant. In addition to the Air Guide 1 analysis submitted by the applicant, the Department conducted its own additional analysis and reviewed data from other sites beyond the information provided by Lafarge. The application and draft permit including stack test results and emissions information were available for review at the Department of Environmental Conservation's Region 4 office, the Ravena Coeymans Selkirk Community Library and the Castleton Public Library. The Department also provided information on their emissions profile analysis at two public informational meetings and provided their additional analysis to the attorney representing the Friends of Hudson who indicated they were going to have an independent consultant (Camp, Dresser and McKee) review the information contained in permit application and the additional data gathered by the Department.

**Comment 4:** *A commenter suggested that hazardous air pollutants will increase due to incomplete combustion, including PAHs, PCBs, and PCDDs/PCDFs, suggesting that phenolic compounds are precursors for the formation of compounds such as dioxins and furans, when significant quantities of chlorine are present (chlorine is present in both coal and tires). Specifically DEC must limit the emissions of zinc and carbon monoxide to prevent possible increases in Dioxin/Furan emissions (Baker)*

**Response:** Emissions from the cement manufacturing process are not solely attributable to fuels. Specifically, emissions of HAPs are affected by the raw materials and process type employed at any time or plant location. Combustion of TDF is expected to be sufficient in the kiln due to its high temperatures, turbulent environment, and a gas residence time within the system.

As to dioxin/furan formation, studies regarding various fuel types in cement kilns, including detailed evaluations conducted by EPA, indicate that the predominate formation mechanism for dioxin furans in cement kilns is

related to exhaust gas temperature at the inlet to a kiln's particulate matter control device and not the result of fuel type. In the combustion zone of a kiln system, temperatures are sufficiently high that any dioxin/furans formed are destroyed. In addition, the facility must always demonstrate compliance with the federal dioxin/furan emission limit established by the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry.<sup>(3)</sup>

Lafarge provided emissions data for kilns, both wet and dry process with different pollution control and percent fuel (coal, coke, oil, TDF) composition, in Volume 2 of their application. Stack test emissions data were from two Lafarge kilns. Overall, they stated it was difficult to quantify the TDF emissions because the distribution of the data were variable and the emissions are so facility-specific, depending upon the kiln, combustion process, source control and other variables such as differences among the raw feed constituents. The Department acknowledges the data variability and difficulty in estimating the emissions. Based upon this information, the Department: 1) reviewed the scientific literature to get a relative comparison of emissions from coal and tires from cement facilities, in general, to target and quantify contaminants expected to increase with tires; 2) in addition to data submitted by Lafarge in Volume 2 of their permit application, collected available stack emissions test data including speciated HAP and metals data from EPA reports (Air Emissions Data from Scrap Tire Combustion) and other facilities in California and Colorado; and 3) requested Lafarge to conduct a worst case analysis using the maximum content of metals in the tires and the maximum tire feed rate (20%) along with the Lafarge baseline stack test results as a basis for the predicted emission increases.<sup>(4,5,6,7,8,9)</sup>

In general, a review of the data confirmed the variability in facility-specific emissions with some facilities showing increased emissions while others showing decreased emissions of the same contaminant. However, in most cases the actual increase or decrease was not substantial, especially when considering the potential increases in regards to the baseline stack tests and modeled, predicted impacts. A comparative health risk assessment conducted for the California Colton Plant concluded that firing the kilns with a mixture of tires and coal (11-12% whole tire supplement) reduced the overall risk (September 1999).<sup>(7)</sup> In addition, an Agency for Toxic Substances and Disease Registry (ATSDR) 2003 Health Consultation which evaluated the potential health impacts of emissions from CEMEX facility in Colorado concluded the inhalation, ingestion and skin contact routes of exposure to stack emissions from the CEMEX cement kiln resulting from burning a fuel mixture containing coal and 19% tires presented "no public health hazard." ATSDR defines "no public health hazard" as a category used in ATSDR's public health assessment documents for sites where people have

never and will never come into contact with harmful amounts of site-related substances.<sup>(10)</sup>

A 2002 technical report cited in the Journal of Environmental Quality (Vol. 31, pgs. 1484-1490), observed when tires were used: (I) increases of 12 to 24% in particulate matter (this range considering the concentration variation depending on the average used - 1hr, 24hr, and annual basis), 31 to 52% in CO, 22 to 34% in SO<sub>2</sub>, 39 to 52% in HCl, 12 to 27% in Fe, -3 to 8% in Al, 30 to 37% in Zn, and 270 to 885% in Pb; (ii) a decrease of 8 to 13% in NO<sub>x</sub>, 9 to 13% in polycyclic aromatic hydrocarbons, 6 to 7% in naphthalene, 32 to 39% in chlorobenzene, and 32 to 45% in dioxins and furans. The rate of emissions for mercury also decreased by 22%.<sup>(5)</sup>

The Department acknowledges that the above mentioned facilities and processes are different than the Lafarge Ravenna facility and therefore, are not completely applicable, but the data do support the overall weight of evidence that tires may be utilized successfully in properly operated and controlled cement kilns.

The range of emission increases from the scientific literature and stack test data were used to assess the modeled, predicted ambient impacts compared to the Departments health-based, ambient guideline concentrations. The inhalation assessment using conservative Air Guide-1 screening calculations for maximum potential annual and short-term impacts showed predicted impacts were considerably below (<10%) the guideline values. When considering the greatest increases from the range of emissions increases reported in the scientific literature, stack test data submitted by Lafarge and other independent data obtained from California by the Department, the predicted impacts still did not exceed the ambient guideline concentrations used by the Department.

**Comment 5:** *A commenter suggested that Colton, California stack emissions test dated September 1999 shows a 58% increase in PM<sub>10</sub> and 66% increase in 2,3,7,8 dioxins using TDF. The tests showed a 9% increase in total PM while the filterable fraction of total PM (representing 93% of baseline total PM, but only 69% of the tire burning total PM) decreased 19%, the condensable fraction of particulate matter (7% of baseline total PM, but 31% of tire burning total PM) increased by 350%. The CEMS also showed a 141% increase in CO. Based on this data, the potential exists for increases of multiple pollutants at Ravenna. Lafarge should provide detailed emission calculations that unequivocally demonstrate why similar emission increases are not expected. Commenter noted concerns with increases in dioxin emissions which would increase substantially if Lafarge burns whole tires and associated health impacts. This increase is also why a full SEQR review*

*is required. (Baker, Depew)*

**Response:** It is not technically sound to draw conclusions solely from a single test or single cement plant in projecting changes in emissions at another plant. As discussed in the previous response, the variability between particular plants and tests are often not analogous. Lafarge evaluated a much larger body of data regarding the use of TDF in cement kilns and provided that information in the permit application. The Department went beyond the application information provided by Lafarge to gather more information about the changes that could be expected in the emissions profile as a result of using TDF. All of this information, including the requirement for baseline stack test data, was evaluated to develop the predicted emissions associated with the use of TDF in the Ravena plant. Based on this analysis, the expected air emissions differ from the example cited by this commenter. Pollutant variations occur for many reasons in cement kilns and those changes observed at the Colton Plant could have resulted from changes in operating parameters and the use of sub-bituminous coal rather than the use of TDF. The average chlorine content of tires is approximately 2.7% higher than bituminous coal and approximately 1869% higher than subbituminous coal. This is an important factor to consider when assessing dioxin emission increases at facilities substituting TDF for subbituminous coal versus bituminous coal.<sup>(11)</sup> Lafarge has taken steps to address emissions increases, including the addition of a mixing air fan as part of the proposed project to mitigate potential increases in CO.

Additionally, the Department has required Lafarge to conduct baseline stack tests for PM10, metals, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans, polynuclear aromatic hydrocarbons, polychlorinated biphenyls, fluoride, ammonia, sulfur dioxide, carbon monoxide, total hydrocarbons and total non-methane hydrocarbons. Lafarge will be held to their predicted emissions estimates as their permit application will be incorporated by reference into their permit. Repeat stack tests will be conducted for the same contaminants with tires to further verify the predicted emissions and ambient impacts. If the results of this stack test and modeled ambient impacts with tires, compared to coal, are not acceptable, the percent tire supplement may be reduced and/or additional permit conditions monitoring kiln operating parameters will be written to ensure proper operation and combustion during the firing of tires in the kiln and subsequently, adequate environmental and public health protection.

**Comment 6:** *A commenter suggested that based on the Colton data the contribution to particulate emissions from condensables could be very significant. EPA also raised a concern re: condensables. (Baker)*

**Response:** The draft permit contains requirements to test the Ravenna kilns for condensable particulate matter as part of the validation testing. It would be expected that condensable particulate matter emitted from a cement kiln would be largely in the form of nitrates and sulfates. The use of TDF is not expected to significantly change the sulfate and nitrate emissions. As a result, it should not significantly change precursors to these condensable particulate forms.

**Comment 7:** *A commenter suggested that neither the EAF form nor the revised air permit application contain any discussion of possible PM<sub>2.5</sub> emissions from stationary sources associated with the modification (in particular, the kiln,) and Lafarge should revise its PM<sub>2.5</sub> analysis to address both mobile and stationary sources. (Baker) Commenter noted that a Harvard study notes that even short term 20% increases in PM<sub>2.5</sub> had significant, measurable, negative health effects on downwind populations. (Depew)*

**Response:** Lafarge reviewed PM<sub>2.5</sub> emissions from associated activities at the Ravenna Plant including those from mobile sources in accordance with the Department's PM<sub>2.5</sub> policy (NYS DEC's Commissioner's Policy -33 Assessing and Mitigating Impacts of Fine Particulate Matter Emissions).<sup>(12)</sup> These assessments showed that no significant net emission increases in this pollutant would be expected as a result of this project. With respect to the kiln, emissions of PM<sub>10</sub> are not expected to increase significantly and, consistent with the Departments and EPA policies, it was concluded that changes in PM<sub>2.5</sub> would not be significant (see pg. 3 of Attachment A of the EAF for PM<sub>2.5</sub> estimates).

**Comment 8:** *Commenter noted that carbon monoxide emissions would increase by 1,081 tons per year without an increase in facility output. This implies tires wouldn't burn efficiently, leading to potential increases in dioxins and furans. Another comment noted that DEC projected CO emissions to increase 108 tons to 1,081 tons annually or 2,162,000 pounds. This fact implies that whole tires will not be burned efficiently, leading to the potential for an increase in dioxins and furans. These potential negative impacts must be fully vetted and assessed before this modification is permitted. ®. Blumenthal, Baker, Travers, Greene).*

**Response:** Lafarge estimated that carbon monoxide emissions will not increase more than 99 tpy due to the use of TDF, not 1,081 tpy (see Title V permit modification application p. 14), and CO emissions may actually decrease. Data reviewed for other cement plants utilizing TDF indicated that in some cases CO emissions decreased while in others CO emissions slightly increased. This disparity in data may be due to the inherent variability of CO emissions from a cement kiln – some of which are a function of raw materials

in the process, not solely fuels used. For this application, a 99 tpy CO cap increase was established as a conservative estimate of projected increases in CO emissions. Lafarge has proposed to mitigate any CO emissions increase through the installation of a mixing air fan to enhance combustion. Lafarge also intends to install a carbon monoxide continuous emissions monitor to continuously monitor carbon monoxide emissions to ensure they remain below applicable thresholds. The CO monitoring data will be provided to the Department. In addition, the EPA recently published proposed rule amendments for the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry on December 2, 2005 for public comment.<sup>(13)</sup> These proposed amendments address the issue of incomplete combustion and increases in CO and total hydrocarbons (THCs) raised by the Commenter. The EPA will establish emission limits for carbon monoxide and total hydrocarbons (THCs) for new and existing kilns. The Department will incorporate the final emission limits for THC and CO in Lafarge's Title V permit as permit conditions when the EPA finalizes the amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry. These emission limits will insure that the kiln operates under good combustion conditions and will minimize the formation of organic hazardous air pollutants.

The facility must always demonstrate compliance with the federal dioxin/furan emission limit established by the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry.

**Comment 9:** *Commenters expressed concern about the differences in the emissions profiles that result from the burning of whole tires versus chipped tires and the lack of data in the application regarding the burning of whole tires. Commenters stated there are nine other Lafarge facilities burning whole tires and raised questions as to why this data was not included in the application (Blumenthal, Depew, Baker)*

**Response:** Lafarge provided emissions data for cement kilns, both wet and dry process with different pollution control and percent fuel composition (coal, coke, oil, TDF-whole and chipped), in Volume 2 of their November 12, 2003 Title V modification application. Specifically, *The Tire Derived Fuel Firing in Cement Kilns Air Emission Evaluation*, Volume 2 report by Air Control Techniques, contains emission data for cement kilns including four emissions tests at facilities using whole tires, five tests for facilities utilizing chipped tires and eighteen tests that did not specify if the TDF was whole or chipped. Stack test emissions data were from two Lafarge kilns. Lafarge has submitted additional information about the firing characteristics and concluded that eighteen facilities with emissions data were burning whole tires.

In response to this comment, additional data were requested by the Department and received from Lafarge.<sup>(14)</sup> This data indicates they have seven facilities in the U.S. using whole tires, but these facilities are not comparable, wet process facilities. These facilities included : Davenport, IA; Harleyville, SC; Joppa, IL; Roberta, AL; Sugar Creek, MO; Tulsa, OK; and Whitehall, PA. One Lafarge facility in Seattle, WA was a long wet kiln burning two inch chip tires, but has recently submitted a permit application to use whole tires per contact with the State regulatory agency.

Additional stack test data were also requested and provided by Lafarge.<sup>(15)</sup> This data are summary of the Portland Cement (PC) MACT (including dioxin/furan, some speciated) and metal stack testing data from six of the Lafarge Plants in the United States including Alpena, MI; Joppa, IL; Sugar Creek, MO; Tulsa, OK; Whitehall, PA; and Seattle, WA. Three of these facilities (Seattle, Tulsa, and Whitehall) listed TDF as a fuel. Available data were from the one or two most recent stack tests, conducted between 2002 and 2005.

Overall, Lafarge stated it was difficult to quantify the TDF emissions because the distribution of the data were variable and the emissions are so facility-specific, depending upon the kiln, combustion process, source control and other variables such as differences among the raw feed constituents. The Department also conducted its own review of available stack emissions test data including speciated HAP and metals data from EPA reports (Air Emissions Data from Scrap Tire Combustion) and other facilities in California and Colorado.<sup>(4,5,6,7,8,9)</sup> In general, this review of the data confirmed the variability in facility-specific emissions with some facilities showing increased emissions while others showing decreased emissions of the same contaminant. Zinc was the one contaminant that usually increased with the use of TDF. However, in most cases the actual increase or decrease was not substantial, especially when considering the potential increases in regards to the baseline stack tests and modeled, predicted impacts.

The Department acknowledges the data variability and difficulty in estimating the emissions given the emissions are truly facility-specific. Based upon this information, the Department: 1) reviewed the scientific literature to get a relative comparison of emissions from coal and tires from cement facilities, in general, to target and quantify contaminants expected to increase with tires and 2) requested Lafarge to conduct a worst case analysis using the maximum content of metals in the tires and the maximum tire feed rate (20%) along with the Lafarge baseline stack test results as a basis for the predicted emission increases.

The Department also acknowledges that while facilities and processes are

different than the Lafarge Ravenna facility and therefore, are not completely applicable, the data do support the overall weight of evidence that tires (whole or chipped) may be utilized successfully in properly operated and controlled cement kilns. The Department also maintains that the worst-case scenario, considering the maximum content of metals in the TDF and the maximum TDF feed rate (20%) was conservative and appropriate in absence of the comparable data.

In terms of the differences in the use of whole vs. shredded tires, given the combustion characteristics of a cement kiln, achieving adequate combustion is the key parameter for minimizing emissions. Furthermore, it is important to note that shredded and whole tires are combusted in the same vicinity in the kiln in order to achieve optimal combustion conditions for both cases. Shredded tires are blown/injected into the kiln and combust at a point that is near where whole tires are introduced and combusted in the kiln.

Adequate combustion can be achieved through the use of whole or shredded tires given the conditions of the cement kiln (time, temperature and turbulence). In terms of composition, whole vs. shredded tires typically only differ through the removal of steel belts, in the case of shredded tires. It should be noted that the iron in the steel belts is a required component of the raw material mix in the cement kiln. With the removal of steel belts, iron from another raw material source would need to be added as a supplement to raw mix feed to the kiln to form the proper clinker quality.

Finally, the economic and environmental impacts of having to shred tires makes this option less desirable. As an example, to make the 24,000 tons per year of two-inch (or less) tire chips using a portable shredder powered by diesel fuel, it would take approximately 200,000 gallons per year of fuel oil. This would result in the unnecessary generation of air contaminants; approximately 66 tons per year of NO<sub>x</sub>, 13 tons/yr of CO, 4 tons/yr of SO<sub>2</sub>, 4 tons/yr of PM<sub>10</sub>, and 5 tons/yr of VOC using EPA emission factors. In addition, this would place additional unneeded demands on fuel oil in New York State and result in roughly \$500,000 in annual energy costs for the Ravenna plant.

**Comment 10:** *A commenter suggested that with respect to air emissions upwind or downwind from the Ravenna Plant in terms of ambient air quality impacts, particularly downwind, a screening level analysis for toxic emissions was conducted per Appendix B of the DEC Air Guide 1 policy. This provides a conservative estimate of ambient impacts irrespective of wind speed or direction or specific location. It simulates impacts as if all locations are downwind of the Plant. Results are less than 10% of the applicable Air*

*Guide 1 annual and short term guideline concentrations. DEC confirmed this analysis and also conducted a more refined EPA ISCLT2 model analysis. This predicted even lower maximum ambient concentrations, approximately 1% of the Air Guide 1 annual and short term guideline concentrations. (Remsberg)*

**Response:** Comment noted.

**Comment 11:** *A commenter cited the remand of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry and the lack of the establishment of emission standards for sulfuric acid, mercury and total hydrocarbons by EPA. The commenter notes that EPA has not addressed the remand to date. In light of this weakness the commenter indicates that 6NYCRR Part 212 should be used as the regulatory authority to establish emission limits for these pollutants and other non-criteria contaminants listed in Permit Condition 5-24 and that all of these contaminants should be A rated per 6NYCRR Part 212. (Baker)*

**Response:** The EPA published a proposal on December 2, 2005 for public comment which address the issues raised in the remand of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry. Specifically, the EPA will establish emission limits or percent reduction requirements for hydrochloric acid (HCl) for new kilns constructed after December 2, 2005. The commenter incorrectly identified sulfuric acid as the subject of the remand. The EPA will establish emission limits for carbon monoxide and total hydrocarbons (THCs) for new and existing kilns and will not establish any emission limits or percent reduction requirements for mercury emissions from new and existing kilns. The Department will incorporate the final emission limits for THC (20 ppmv) and CO (100 ppmv) in Lafarge's Title V permit as permit conditions when the EPA finalizes the amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry. These emission limits will insure that the kiln operates under good combustion conditions and will minimize the formation of organic hazardous air pollutants. In addition, Lafarge has proposed to limit the CO emissions associated with the TDF project. The draft permit contains a net emissions increase limit of 99 ton per year.

The Department agrees that the issue of the applicability of 6NYCRR Part 212 needs to be addressed in Lafarge's Title V permit. This issue will be addressed as part of the Title V permit renewal process in April 2006. In summary, emissions from kilns and clinker coolers in portland cement plants subject to 6NYCRR Part 220 Portland Cement Plants are exempt from

6NYCRR Part 212 regulation with respect to emissions which are not given an “A” rating. The definition of an “A” environmental rating is as follows: An air contaminant whose discharge results, or may result, in serious adverse effects on receptors or the environment. These effects may be of a health, economic or aesthetic nature or any combination of these.

The Department assigns environmental ratings to air contaminants after consideration of the following items: (a) toxic and other properties and emission rate potential of the air contaminant; (b) location of the source with respect to residences or other sensitive environmental receptors, including consideration of the area’s anticipated growth; (c) emission dispersion characteristics at or near the source; taking into account the physical location of the source relative to surrounding buildings and terrain; and (d) the projected maximum cumulative impact of taking into account emissions from all sources in the facility under review and the pre-existing ambient concentration of the air contaminant under review.

The Department developed the Air Guide-1 process (specifically Appendix A) to provide critical guidance in the assignment of environmental ratings under 6NYCRR Part 212. Using this guidance the Department disagrees with the Commenter that all of these pollutants and other non-criteria contaminants listed in Permit Condition 5-24 should be “A” rated per 6NYCRR Part 212, with the exception of mercury. During the Title V permit renewal process the mercury emissions from the kiln will be assigned an environmental rating of “A” and the emissions of other air contaminants will be assigned ratings below “A” using the criteria discussed above. The assignment of an “A” environmental rating for mercury will require a degree of air cleaning (percent removal) as specified by the Commissioner since the emission rate potential of mercury per the baseline stack test is less than one pound per hour.

Lafarge will be required to submit an analysis of the potential actions that could be taken to reduce mercury emissions from the Ravenna Plant as part of their Title V renewal process in April 2006. The Department has deferred this requirement because the data demonstrate the average and range of mercury contained in tires is less than bituminous coal that is currently being used. Although the analysis predicted possible mercury emission increases (worst-case =100 pounds, mean case = 20 pounds) it is also possible mercury emissions may decrease. The Department will make a final decision on the percent removal and permit conditions that will be required for mercury based on the Department’s review of this analysis and the results from the stack test using the TDF fuel supplement.

**Comment 12:** *A commenter suggested that the emission impacts may be below DEC air guidance concentration levels, increases in hazardous air pollutants are unacceptable and DEC, in its review and consideration of this permit application, should base its decision on the assumption of the potential worst case and reject the application based on such potential for an increase of these. (Schiafo).*

**Response:** See responses to comments 1, 2, 4 and 11. A conservative analysis of hazardous air pollutants impacts was designed to be protective of public health. The results of this analysis showed compliance with the Department's Air Guide 1 policy. The DEC air guidance concentrations have been established at levels that are protective of public health. The projected emission impacts are 10 to 100 times less than these health-based guidance values. So even though some concentrations of HAPs may rise, they are still below these protective health guidance levels. The predicted increases used in the analysis of this project were developed by estimating worst-case emissions changes with TDF. The Department conducted the analysis based on potential worst case emissions and the impacts were still way below the Department's guideline values. Lafarge has provided data that, with the exception of zinc, actual emission levels for hazardous air pollutants are expected to be similar to what is currently emitted from the kiln. It is possible that emissions, including mercury, may be reduced with TDF usage. This statement is based on the analysis by the Department of the data demonstrating the average and range of mercury contained in tires is less than bituminous coal that could currently be used at the plant (The Cost of Mercury Removal in an IGCC Plant, Final Report September 2002, Prepared for The United States Department of Energy National Energy Technology Laboratory, by Parsons Infrastructure and Technology Group Inc.).<sup>(16)</sup> It should also be noted that Lafarge will continue to be required to comply with the NESHAP from the Portland Cement Manufacturing Industry requirements following TDF usage. In addition, as previously noted in other responses to comments, Lafarge is required to conduct additional stack test for various HAPs to validate the conclusions of the Air Guide 1 analysis completed as part of the current air permit application.

**Comment 13:** *A commenter suggested that burning tires increases smog and disease due to pollutants, some are carcinogens and toxics. (Davis)*

**Response:** The use of TDF is expected to reduce a key pollutant (nitrogen oxides) in the generation of smog. The Department has evaluated the potential public health impacts of the proposed project and the results do not indicate the potential for increased adverse health effects or disease. See responses to comments 1, 2, 4 and 11.

**Comment 14:** *A commenter suggested that there should be plenty of long term studies*

*available from the Health Department since the Plant has been burning coal for 40 years, Bethlehem Energy Center has been burning coal and heavy oil for 50 years, and General Electric operates two incinerators in Selkirk. That's their job. (Holinger)*

**Response:** Comment noted. The Albany Steam Station stopped burning coal in 1970; the boilers were converted from coal to residual oil. Natural gas firing capability was added in 1981. The Albany Steam Station was shut down in 2005 and has been replaced with a new facility; the Bethlehem Energy Center. The Bethlehem Energy Center is permitted to use natural gas with limited use of distillate fuel oil as back up fuel. The GE Selkirk facility currently operates one hazardous waste incinerator.

**Comment 15:** *The air quality in this immediate area has long been substandard and much of the blame can be laid at the door of Lafarge. Lafarge is an irresponsible company which would hazard people's health and well being in order to make money. (Donald)*

**Response:** Comment noted. The proposed TDF project is not anticipated to adversely impact regional air quality.

**Comment 16:** *Rachel Carson in Silent Spring and Our Stolen Future are important about what we are doing to the environment. With that many tires, for how many years, will change the background levels we already have, that are already too much. Will mothers be able to give birth to children in the future that will be as strong and healthy as they would have been were we not loading the environment with lead, zinc, etc.? When a woman eats she takes in dioxins and when pregnant they go into the fetus and in breast milk and this will affect the future intelligence and immunities of a child. How can we increase toxins? (Blackman, Blechman)*

**Response:** See responses to Comments 1, 2, 4 and 11. As previously noted, the Department has conducted an analysis of the potential public health impacts using Air Guide-1 and has reviewed health risk assessments about the use of TDF at other cement kilns and has determined that the proposed project will not result in adverse health effects in the surrounding communities.

**Comment 17:** *I am concerned about the children as the operation is right across from the middle/high school and a few miles from the elementary school. In addition to high levels of diesel emissions already generated from the enormous number of trucks entering/exiting the facility daily, no data has been provided that shows emissions from the burning of tires is safe. (Deyo)*

**Response:** The Department was provided with data regarding changes in emissions from the volume of trucks that would result from the use of TDF at the Ravena

plant. From this data, the Department made a preliminary determination that these changes will not result in a significant adverse impact to the surrounding environment including students at nearby schools. In addition, data has been provided by the applicant and additional data has been gathered and reviewed by the Department about the public health impacts of using TDF in cement kilns. See responses to Comments 1, 2, 4 and 11 which address the potential public health impacts.

**Comment 18:** *Over the years corporate polluters have created huge numbers of brown sites, especially in the Hudson Valley. For a foreign corporate to request to further air pollute and destroy our vital forest watershed by burning deadly, carcinogenic, chemical laden tires, is the height of unbelievable gall and indifference to the public welfare. Are they trying to punish the public for objecting to their now denied plans for a cement plant in Hudson? (Counihan)*

**Response:** The cement plant proposed for Greenport was another company's project not related in any manner to Lafarge Building Materials, Inc. or this application. See responses to Comments 1, 2, 4 and 11 which address the potential public health impacts.

**Comment 19:** *Commenter noted that mercury and dioxins cannot be accurately measured at the stack in small amounts and how would DEC solve the problem of undetectable emissions with potential health risks? (Depew)*

**Response:** These emissions were measured during the baseline stack test which was reviewed and witnessed by the Department. A stack testing protocol which outlined the procedures and analytical test methods were approved by the Department. All of the analytical test methods used in the baseline stack test were approved by the EPA. A second verification stack test would be conducted after the use of TDF. In addition, the facility is required under the NESHAP to conduct periodic stack testing for dioxins and furans using EPA approved methods. Results of these tests are submitted to the Department. The Department does not expect to encounter a problem of undetectable or non-detects levels for mercury and dioxins as a result of the stack tests. Values below the detection limits would indicate no or trace emissions of dioxins and mercury.

**Comment 20:** *If you allow this plant to burn tires, you will pollute the growing crops that cows eat for milk production. As a result, the milk which we as New York citizens consume will also be polluted causing all kind of problems for us not to mention what it will be doing to the cows and struggling farmers. (Stuyvesant)*

**Response:** The Department does not believe the proposed project will have a negative impact on forage for cattle. The projected emission increases are well below other projects which have been before the Department and have triggered a request by the Department for the preparation of multi-pathway health risk assessment (HRA) by the applicant. The Department used a beef/dairy farm area screening guidance developed by the New York State Department of Health (NYSDOH) to assess the need for multi-pathway HRA.<sup>(17)</sup> The Department would require this type of an HRA for mercury and dioxins if the Air Guide-1 (AG-1) analysis indicated that the predicted annual concentrations at the point of maximum impact were 25% of the AGC for mercury and 1% of the AGC for dioxins. The Department of Health recently issued guidance which required the applicant to consider the need for a multi-pathway human health risk assessment if any persistent, bioaccumulative and toxic non-criteria pollutant exceeds 1% of the corresponding health risk based air concentration and the modeled plume will impact beef or dairy farms.<sup>(18)</sup> The AG-1 analysis conducted by the Department as part of the review of this application indicates that the annual concentrations are below 1% of the respective AGCs for these contaminants and other contaminants which would be of concern from other routes of exposure besides inhalation.

**Comment 21:** *The cement plant was just recently named one of the top 100 polluters in New York in an article in the Times Union. So why would we want them (cement plant) to burn tires for fuel? If someone did a study of all the cases of asthma and cancer in our area it would be noticeably higher, I'm sure compared to other places. (Doyle)*

**Response:** Using the New York State Cancer Registry database and the New York State Statewide Planning and Research Cooperative System or SPARCS hospitalization discharge database, the NYS DOH provides county level and zip code level maps of cancer incidence and asthma hospitalization discharge rates in New York. (See <http://www.health.state.ny.us> under Site Contents, Statistics and Data).<sup>(19)</sup> There are limitations and confounding variables to consider when interpreting this data.

The NYSDOH website outlines some of these uncertainties and limitations associated with the interpretation of the cancer incidence data. A review of the cancer surveillance information for Albany, Greene, Columbia and Rensselaer Counties for the years of 1992 -1996 indicates that the cancer incidence for the majority of the various types of cancer by sex are within 20% of the state cancer rates. The cancer incidence for some types of cancer by sex in these counties are above the state rate by 30% or more. In response to questions about cancer induced by the environment, the NYSDOH has

stated “A map cannot prove that something in the environment causes cancer. Cancers develop slowly in people. They usually appear five to 40 years after exposure to a cancer causing agent. This is called the latency period. This is one of the reasons it is difficult to determine what causes cancer in humans. Also, many people move during this period of time, making it hard to link exposure to a cancer causing agent to where a person lives.”

A review of the New York State asthma hospitalization rates for 2000 -2002 in Albany, Greene, Columbia and Rensselaer Counties indicates the asthma hospitalization rates are below the New York State rates when New York City is excluded. In addition, the asthma death rates for 2000 -2002 in the four counties are not elevated. In summary, the incidence of cancer and asthma in the four county area are not noticeably higher.

**Comment 22:** *Everyone should attend a fire burning festival where we get a permit out in the woods and burn a nice pile of tires and see how long you want to stay around this party. (M. Winner)*

**Response:** Comment noted.

**Comment 23:** *In 1962 people would have laughed if someone offered to sell them a bottle of water for a dollar. How much will a bottle of clean air cost?*

**Response:** Comment noted.

**Comment 24:** *There is a lack of information on the incineration of tires, including medical studies. (Cummings)*

**Response:** TDF has been used for over 30 years, and is approved for use at over 40 cement plants in 65 cement kilns in North America. There is a substantial amount of emissions information available based on the extensive use of TDF. The Department has reviewed the emissions information, conducted a inhalation risk screening assessment and has reviewed other health risk assessments involving the use of TDF in cement kilns. See responses to Comments 1, 2, 4 and 11.

**Comment 25:** *It is imperative that the DEC obtain its own, independent information on what emissions are produced from the use of whole tire derived fuel by cement plant kilns. Why does your department accept Lafarge’s data? (Marks)*

**Response:** See response to Comment 9.

**Comment 26:** *I urge the State to require Lafarge to submit a full disclosure of its proposed tire-burning detailing in great depth the particulars re: levels of pollutants to be emitted. (Monkash)*

**Response:** See response to comment 9. The application information including the Title V air permit modification application, stack test data and volume 2 of the application provide supporting air emissions information. In addition, the Department conducted an independent review of the emissions information that was beyond the information provided by the applicant.

**Comment 27:** *The only possible downside is smoke stack emissions. The benefit outweighs the possible minuscule increase in emissions. Two other Lafarge plants I talked to have seen better stack emissions with tires. I believe that burning tires at that high of a temperature will either have a neutral effect or a marginal effect on our emissions. (Dunbar)*

**Response:** Comment noted.

**Comment 28:** *It is said that at high temperatures the toxins are destroyed. I am doubtful. Further, one cannot be assured of the stability of high temperatures. When tires are rolled into a fire, the temperature drops. Towards the end of burning the temperature drops. Cement plants do not properly maintain temperatures high enough to burn off pollutants. (Asbornsen, Jamison)*

**Response:** The burning temperature of the kiln must be maintained within specific ranges to produce quality cement. The flame temperature is over 3000° F and at the point of tire injection the temperature is 1,500 to 1,800°F. In these high temperatures, tires will be combusted within 30 seconds. In addition, the installation of mixing air fans are included in the application to enhance combustion. The Ravenna Plant cement kilns also have electrostatic precipitators as air pollution control equipment. In cement kilns, many toxic metals are not emitted from the stack, they are retained in the cement clinker and final product. As a result, only a small amount of the overall constituents of the raw materials that are introduced to the cement kiln process are emitted from the stack. The cement kilns at the Ravenna plant are required to comply with federal emission standards designed to reduce emissions of hazardous air pollutants under the NESHAP for the Portland Cement Industry. The Ravenna plant will continue to be required to comply with these limitations should TDF be used in the kilns. In addition, the Department will incorporate the final emission limits for THC and CO in Lafarge's Title V permit as permit conditions when the EPA finalizes the amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry. These emission limits will

insure that the kiln operates under good combustion conditions and will minimize the formation of organic hazardous air pollutants.

**Comment 29:** *I was retained by Lafarge to provide toxicological expertise and tasked with determining whether there are potential adverse health effects as a result of burning tires as a substitute fuel in the kilns. I've reviewed estimated future emissions and a comparison to the Air Guide 1 health based guidance values shows predicted impacts significantly less than the guideline values, and, therefore below levels which are of a health concern. Air Guide 1 has short term values to protect the general population from adverse acute one hour exposures and annual guideline concentrations to protect against adverse chronic exposures and these are based upon the most conservative carcinogenic or noncarcinogenic annual exposure limits. The AGC is based on the concentration equivalent to a lifetime cancer risk of one in a million. This concurs with DEC's own analysis. Commenter also cited human health risk assessments at the Cemex Lyon, Colorado cement plant determining that emissions from burning TDF were not a public health hazard, a Rugby Cement study using 40% tires that found zinc would increase but not pose any significant health effect and other metals would decrease. The report found no difference in life expectancy, mortality, infant deaths and asthma. The California Air Resource Board noted that of 13 permitted facilities, 6 use TDF including 3 cement facilities using whole tires. Risk assessments found there was no significant increase in the health risk of the exposed public. A Colton, CA cement study found a 47% decrease in cancer risk to the theoretical maximum exposed individual from using coal and TDF versus coal. The non-cancer indices were reduced 72% and it was concluded that TDF and coal reduced the overall risk from hazardous air pollutants than coal alone. (Vetrano)*

**Response:** Comment noted.

**Comment 30:** *It is an industry secret what's completely in tires. They don't divulge actually what goes into the tires when they process it. How can we know when we do modeling what heavy metals or additives come out? (Downs)*

**Response:** Industry information regarding tire composition is readily available. Data was provided in the application on the chemical and physical characteristics of tires (see Beneficial Use Determination, Section C and Appendix 1). Lafarge studied the typical composition of tires and included this data in estimating future emissions while using TDF. In many cases, the composition of tires has lesser amounts of hazardous constituents than that of the fossil fuels that TDF would replace in the Ravenna kilns.

**Comment 31:** *We should question from the start the baseline emissions from the plant –*

*they are horrendous and one of the worst in the State and we are doing nothing about it. We rely on these grandfathered stacks. We should be attending a public hearing to decide if the plant should continue to operate with these antiquated technologies. (Downs)*

**Response:** The kiln stack must meet current Federal and State regulatory and permit requirements. The existing facility is currently meeting those requirements.

**Comment 32:** *Careful studies of weather and wind patterns in southern Albany, Rensselaer, Greene, and Columbia Counties have not been made. (Dunham)*

**Response:** With respect to air emissions upwind or downwind from the Ravena facility in terms of ambient air quality impacts, particularly downwind, the dispersion modeling of the air toxic emissions was conducted by Lafarge per Appendix B of the DEC Air Guide-1 policy. This analysis provides a very conservative estimate (i.e. tends to over predict) of ambient impacts irrespective of wind speed or direction or specific location. It simulates impacts as if all locations are downwind of the facility.

## **Dioxin and Furan Emission Comments**

**Comment 33:** *There will be an increase of dioxins and furans due to burning tires. Dioxins and furans are carcinogens and will impact the public's health. Guidelines don't want the level above one and one hundredth and Americans have one tenth. It climbs the food chain and is fat soluble. Levels in the soil are one hundred times than in animals and they don't stay in the ground, they end up in animals. A Colton, California facility showed increases in dioxins and furans, yet the Lafarge application claims there would be no increase. Data from California cement kilns showed half or double the amount of dioxins. Five Canadian kilns increased 37-347%, two other tests showed decreases of 44-55%. EPA admits tire burning is a source of dioxins. (Collins, Winner, M. Winner, Falzon, Travers, Greene)*

**Response:** The proposed project seeks to reduce the use of current solid fuels, for example coal, through substitution of energy input via TDF. EPA studies of cement kilns concluded that the primary correlation in the formation of dioxin furans was temperature levels at the inlet of particulate matter control devices. It was with this understanding that the Portland Cement NESHAP contains temperature requirements to limit the secondary formation of dioxins, in addition to emission limits for dioxin/furans. The requirements were developed with the same emission standard for kilns that use TDF and those that do not. For these reasons, it is expected that the kilns at the Ravena plant will continue to comply with the dioxin/furan emission limits established in the Portland Cement NESHAP when burning TDF. See

additional response to comments 4 and 5.

**Comment 34:** *Lafarge has acknowledged deviations with its dioxin-furan limit at the kilns in its compliance report to NYSDEC. Given the acknowledged increase in CO indicating a higher level of incomplete combustion there is the potential to increase the level of dioxins-furans significantly from a level, at present, which may be above the permit limit. (Baker)*

**Response:** Emissions of carbon monoxide (CO) and dioxin furans in cement kilns are not solely related to fuels used or combustion of fuels. The Portland Cement NESHAP requires minute-by-minute data collection of temperature at the inlet of the Ravenna Plant's electrostatic precipitators. The temperature limit established under Portland Cement NESHAP requirements is set during the most recent dioxin/furan performance test. Even though temperature is used as a parameter for compliance with dioxin/furans, deviations from the temperature limitations do not necessarily mean the emission standard for dioxin/ furan was exceeded. The dioxin emission limits (ng TEQ/dscm) in the regulation require emissions to be 0.2 ng TEQ/dscm, or if the inlet to the particulate matter control device is operated at or below 204°C (400°F), the dioxin emission limit is 0.4 ng TEQ/dscm. The temperature requirement is the average temperature of the test runs during a performance test, which based upon the February 2004 stack test results, Lafarge demonstrated an ESP inlet temperature average of 263 °C (505.4 °F), not less than 400 °F. Since Lafarge operates at an ESP inlet temperature greater than 400°F, the facility is subject to the 0.2 ng TEQ/dscm dioxin emission limit. Lafarge met the 0.2 ng TEQ/dscm emission limit. All Portland Cement NESHAP performance test results at the Ravenna plant have demonstrated compliance with the dioxin/furan emission limit with a significant compliance margin.

**Comment 35:** *A significant increase in dioxin and furan emissions is possible when one considers the catalytic effect of zinc. The application shows worst case zinc level increases of 5.57 tons/yr from 0.31 tons/yr. Zinc is a catalyst on particulates for dioxin-furan formation. With increased levels of precursors, and significant chlorine present, the catalytic effect of such an increase in zinc may lead to dioxin-furan increases the same as or higher than those experienced at Colton, California. (Baker)*

**Response:** The facility must always demonstrate compliance with the federal dioxin/furan emission limit established by the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry.

**Comment 36:** *A Louisiana State University study reported that unless burning is kept and*

*maintained at consistently high temperatures, dioxins, styrene and butadiene are released into the air. Dioxins can reform after incineration when the exhaust cools down. (Jamison)*

**Response:** See response to comments 34 and 35.

**Comment 37:** *There will be an increase in zinc that is a catalyst in the formation of dioxin furans. Whole tires have a higher level of condensable particulates which combined with zinc will lead to increased levels of dioxins and furans. A Canadian government study found four heavy metals including zinc and it ended up in people's backyards. Zinc was most closely linked to mortality in general. It enters the air in small particle form and can be easily inhaled. (Falzon, M. Winner, Baker)*

**Response:** Zinc oxide is used as a curing agent in the manufacture of tires and zinc is found in the steel belts and bead wire. Tires contain approximately 1.5% zinc by weight. The concentration of zinc in coal and coke is less than this amount. Therefore, the available data indicate that zinc emissions will increase with the use of TDF. As such, TDF in either whole or shredded form would be expected to result in increased zinc emissions. However, zinc is a refractory metal that will partition primarily to the clinker and/or cement kiln dust as shown by the site-specific, baseline emissions stack tests conducted at the Ravena facility in February 2004. In these tests, only 0.3% of the zinc input was emitted to the atmosphere through the kiln stack.

Zinc oxide emitted as a particulate may present an inhalation hazard. However, the respiratory effects elicited by particulate matter containing zinc and/or zinc oxide are the same as those elicited by particulate matter which does not contain zinc.<sup>(20)</sup> Therefore, the NYS DEC health-based, ambient guideline concentrations (SGC/AGCs) for zinc and zinc oxide are equivalent standard derived from the Federal 24 hr PM-10 standard. A conservative assessment of zinc emissions was completed by Lafarge and independently reviewed by the Department. This assessment showed that predicted zinc impacts from this project would be way below the public health guidelines established by the Department. With respect to the potential for changes in dioxin/furan emissions as a result of increased zinc emissions, the facility must always demonstrate compliance with the federal dioxin/furan emission limit established by the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry.

**Comment 38:** *In reviewing the data available on TDF usage and dioxin furan emissions from cement kilns, there's been no direct correlation identified between fuels used and changes in dioxin furan emissions, nor has fuel selection been identified as a method to control dioxin furan emissions from cement kilns.*

*It is with this understanding that the PC MACT regulations (Portland Cement NESHAP) regulating dioxin furans were developed with the same emission standard for kilns that use TDF and those that do not. It is expected that the kilns at the Ravenna Plant will continue to comply with the established PC MACT limitations when burning TDF. Cement kilns using TDF contribute only a small fraction to the overall dioxin furan emissions in the U.S., the largest contributor was from backyard burning. (Remsberg)*

**Response:** Comment noted.

**Comment 39:** *EPA's 2000 dioxin inventory has shown there would be less risk associated with dioxin furan emissions from burning TDF(0.51 g/year) as compared to residential backyard burning (498 g TEQ/yr), residential wood burning and fireplaces (11.3), and engines (72.4). EPA has also established risk based standards under the PC MACT rule for hazardous air pollutants including dioxin furans and the Plant complies with these and will have to when burning TDF. (Vetrano)*

**Response:** Comment noted.

#### **Mercury Emission Comments**

**Comment 40:** *There will be increases in mercury. A Colorado cement kiln in 2002 found emissions with coal 80% in mercury, when TDF was used they were 95%. In Canada about 2020 lakes and fishing ponds were affected from mercury. The Energy Justice Network notes an 8% increase in a Colorado cement kiln using TDF adding nearly 5 pounds of additional pollution, enough to contaminate 2,000 20 acre lakes to where fish could not be eaten. (M. Winner, Soul)*

**Response:** The Department is concerned about the mercury emissions from the plant as a result of the baseline stack test. The Department will use state authority under 6NYCRR Part 212 to address the mercury emissions from the plant. During the Title V permit renewal process the mercury emissions from the kiln will be assigned an environmental rating of "A" per 6NYCRR Part 212. The assignment of an "A" environmental rating for mercury will require a degree of air cleaning (percent removal) as specified by the Commissioner since the emission rate potential of mercury per the baseline stack test is less than one pound per hour. Lafarge will be required to submit an analysis of the potential actions that could be taken to reduce mercury emissions from the Ravenna Plant as part of their Title V renewal process in April 2006. The Department will make a final decision on the percent removal and permit conditions that will be required for mercury emissions based on the Department's review of this analysis and the results from the stack test using

the TDF fuel supplement. Also see response to comment 11.

**Comment 41:** *The Northeast attorney generals are suing the Bush Administration over cap and trading of mercury. It's sad the DEC will be helping the defense of the Bush Administration against Eliot Spitzer and the Northeast Attorney Generals who are trying to revoke that rule. They will look at DEC and say, they don't mind that they're increasing mercury levels in New York State so why should we be concerned about what is happening in Ohio and Tennessee Valley coming across the way. (Spilman)*

**Response:** See response to comment 11.

**Comment 42:** *The State recently released its latest fish consumption advisory citing mercury contamination as one of the primary contaminants making fish unsafe to eat. A recent study found mercury levels in the Adirondack and Catskill Mountain region fish with higher levels than fish from other regions. Therefore, efforts must be made to reduce mercury emissions and not allow increases. (Schiafo)*

**Response:** See response to comment 11.

### **Carbon Monoxide Emissions Comments**

**Comment 43:** *In the application data provided some cement plants show increases in carbon monoxide, others decreases. The only wet process burning coal and whole tires and using an ESP, mirroring the proposed project at the Lafarge Ravenna plant, showed a 250 percent increase in CO emissions from TDF. Without examining Lafarge's supporting emission calculations, it is impossible to determine whether this project modest increase of 99 tpy, 10% is defensible. (Baker)*

**Response:** See response to comment 8.

**Comment 44:** *Lafarge is proposing a 10% increase in total CO cap. This indicates that LaFarge expects fuel CO to be more than a minor component of total CO, suggesting it expects a level of incomplete combustion in the mid-kiln. An increase in incomplete combustion may result in an increase in volatile organic compounds from fuel THC in the mid-kiln combustion zone. This is in contrast to Lafarge's assertion that total VOC levels will not be affected. (Baker)*

**Response:** See response to comment 8. In addition, Lafarge's application indicates that

there will be no change in the maximum annual potential emissions of VOCs which is the New Source Review (NSR) applicability test per NYSDEC Part 231 regulations (see air application pages 12-16).

**Comment 45:** *Lafarge seems to retreat from its assertion in its 2005 revised application that an increase in CO is expected ( Section 2.2 page 3, dated January 2005) and that the problem can be addressed through training and additional equipment. However, Lafarge still asks for a 99 tpy cap increase in the permit, giving them license not to manage their combustion properly. (Baker)*

**Response:** See responses to comments 5, 8 and 44.

**Comment 46:** *The 99 tpy cap increase establishes the fact that there is incomplete combustion with no statement with respect to future reduction. Incomplete combustion can yield significant increases in the levels of a number of pollutants. (Baker)*

**Response:** See responses to comments 1, 4, 8, 34 and 44.

**Comment 47:** *The draft permit limits (cap) carbon monoxide emissions at 99.5 metric tons a year. This has been chosen to avoid the costly and more thorough new source review. Other facilities such as the Ashgrove Plant in Midlothien did not have carbon monoxide increases and they use 22% whole tires. Lafarge originally applied for a 40% limit and lowered it as it would trigger new source review which would require better technology and operating procedures. Carbon monoxide indicates incomplete combustion that is tied to an increase in hazardous air pollutants. If the carbon monoxide increase is allowed Lafarge will have a permit to be sloppier in their organization rather than be held accountable to more technologically correct procedures to prevent more incomplete combustion. They have not demonstrated that they need any increase in the carbon monoxide limits. DEC should exercise its authority under state law and prohibit any increase in carbon monoxide emissions. (Falzon, Baker, Wistar, Brownell, Schiafo, Jung, Spivy, Reed, Gordon, Swedenburg, Giammattei, Nyland, Reed, Bowers, Von Pein, Clark, Kraham, Blackburn, Cooney, Hauptmann, Hooper, Vosburgh, Foley, Motto, Powell, Osterink, Greenfield, Zaranko, McGrath, DeCaprio, illegible name)*

**Response:** The draft permit contains an enforceable net emissions increase limit of 99 tons per year for CO (British tons, not Metric tons). Also, see response to comments 8 and 11.

## **Sulfur Emission Comments**

**Comment 48:** *Sulfur emissions from mid-western power plants and other industries have taken a toll, not to mention the documented deadly causation of respiratory disease. Tires are also loaded with sulfur and will cause sulfuric acid when combines with water. The waste ash will have sulfur mineral and seep into the ground or be blown in the wind. (Counihan)*

**Response:** The Lafarge proposed TDF project does not anticipate any significant change in sulfur-related emissions with the use of TDF (see Title V air permit modification application, p. 14). Furthermore, the Ravenna plant must continue to meet the sulfur in fuel limits of 6NYCRR Part 225-1 with TDF.

### **Lead Emission Comments**

**Comment 49:** *Several commenters noted concerns with lead. A pediatrician commented*

*that in August 2005, the New York State Department of Health sent a letter to physicians with an update on childhood lead poisoning prevention. The letter and a New England Journal of Medicine article point out that children are exposed to harmful levels of lead including from contaminated soil and that children's health, especially IQ, can be impacted at concentrations less than 10 micrograms per deciliter. A 2002 article in the Journal of Environmental Quality on emissions from cement plants using tires at a plant in Canada showed at ground level there were increases in the maximum one-hour lead concentrations by 270%. The authors were not concerned as these results were within the safe established air pollution limits for Canada, but in light of the Health Department letter, I believe it is of concern. What are the ground level concentrations of lead around the plant now? What will they be if tires are burned – it's fair to assume there will be a 270% increase in the one-hour maximum concentration in lead at ground level. Copies of reports and the DOH letter were attached. Commenter also noted that EPA is not expected to produce new lead standards until 2009 and criteria is based on a 1979 standard. (Marks, Spivy)*

**Response:** The NYSDOH (Center for Environmental Health) responded to a letter by one of the Commenters and further analyzed the predicted ambient lead impacts and estimated the increase in childhood blood lead levels that may be associated with the increased lead exposure that could occur if tires are used as fuel at the Lafarge facility.<sup>(21)</sup> The DOH used the highest predicted annual average lead concentration in air projected by Lafarge to estimate lead concentrations in soil, homegrown produce and locally-produced beef and dairy products over time. Estimates of the amount of soil, (and indoor dust originating from soil) that children incidentally eat and the amount of homegrown produce and locally-produced beef/dairy products that children consume, were used to calculate a maximally exposed, child's lead intake in

air, soil and food. Based upon this analysis, the potential increase in a maximally exposed child's blood lead was determined to be small (below 1/10th of a microgram or *0.10 µg of lead*).

The Centers for Disease Control (CDC) blood lead level of concern and intervention is 10 µg per deciliter (dL). This blood lead level was intended to serve as a risk guidance and management tool at the community level.<sup>(22)</sup> The CDC recognizes that no evidence exists of a threshold below which lead-related adverse effects are not experienced, but also acknowledges there is an absence of research data on the possible effects of blood lead levels below the blood lead of *10 µg/dL*. There also have been discussions to lower the level, but the validity and precision of blood lead laboratory testing decrease as the lead concentration in the blood decreases. Most laboratories operate at a level in which samples in the 10- to 19-µg /dL range produce results within 4 µg/dL (95% confidence interval) of the true blood level at the time of measurement. Also, there is still substantial uncertainty with respect to health outcomes of childhood lead exposure resulting in blood lead levels below 10 µg/dL.<sup>(23)</sup>

The Commenter submitted a scientific journal article demonstrating even small increases in children's blood lead levels producing cognitive deficits as measured by IQ points. The linear model research for IQ at blood lead concentration below 10 µg per deciliter showed the estimated overall difference in IQ for each increase in the lifetime average lead concentration of *1 µg per deciliter* was -1.37 points (95 percent confidence interval, -2.56 to 0.17). The nonlinear model showed for blood lead concentration increases from 1 to 10 µg per deciliter, the total change in IQ was -8.0 points (95 confidence interval, -12.9 to -3.2). The best estimate, by semiparametric analysis, indicated a loss of 7.4 IQ points for a lifetime average blood lead concentration of up to 10 µg per deciliter and a loss of 2.5 IQ points as blood lead concentrations increased from more than 10 through 30 µg per deciliter. The limitations of this analysis are it is based upon a single study population and more research is needed verifying the results in other populations and using other cognitive assessments.<sup>(24)</sup> Also, the inaccuracy inherent in laboratory testing of blood lead levels below 10 µg per deciliter, the individual variability in susceptibility to neurodevelopmental injury at lower levels of lead exposure, and other social factors and behaviors possibly introducing confounding effects should be further investigated.<sup>(22, 25)</sup>

The Commenter also cites a 270% increase in short-term or 1-hr lead emissions for coal and tires from the journal article, Gaseous Contaminant Emissions as affected by Burning Scrap Tires in Cement Manufacturing.<sup>(5)</sup> However, Carrasco et al. also reports an 885% increase in lead emissions when assessing the maximum annual impacts. The Department does not

have a derived short-term 1-hr guideline concentration or SGC for lead. Lead exposure presents a chronic inhalation hazard and the Department assesses ambient impacts based upon the annual guideline concentration or AGC which is an equivalent standard derived from the Federal 3 month standard for lead (0.38 µg/m<sup>3</sup>). Carrasco's overall conclusion was, "The results obtained showed that the maximum ground-level concentrations were well within the environmental standards."

Although the author is referring to Canadian standards, an 885% increase in lead emissions with tires compared to coal, equates to the annual impact of 0.00463 µg/m<sup>3</sup> which, to compare this impact to NYS environmental standards, is 1.2% of the Department's public health guideline (AGC is 0.38 µg/m<sup>3</sup>) for lead. The Department's AGC for lead is an equivalent standard derived from the Federal three month standard of 1.5 µg/m<sup>3</sup>. Lead emissions and subsequent impacts at the equivalent standard (0.38 µg/m<sup>3</sup>) result in an approximate blood lead level of 3 µg/dL for a child maximally exposed to lead in air, soil and food, per DOH methodology described above.

As the Commenter states, the EPA, under a court-ordered mandate, is required to review the lead Criteria Document and the lead National Ambient Air Quality Standards (NAAQS). The Staff paper for this review must be finalized no later than November 1, 2007 and the notice of the final rulemaking concerning any revisions to the NAAQS shall be signed on or before September 1, 2008 for publication in the Federal Register. The first external review draft of the lead Criteria Document was published December 2005, but the summary of the health effect findings and conclusions for the derivation of primary lead NAAQS, will not be available until the Second External Review Draft.

During the previous 1990 assessment of scientific and technical information and review of the NAAQS for lead, the Office of Air Quality Planning and Standards Staff concluded that, "because of unavoidable background exposures to lead in the diet, historically-contaminated soils and dusts, and maternal bone lead stores *in utero*, no standard can keep all children below a blood lead concentration of 10 µg per deciliter. A monthly NAAQS of 0.5 µg/m<sup>3</sup> would appear to minimize the number of additional children with blood lead levels above 10 µg per deciliter compared to a zero air lead scenario and appears to be a reasonable lower bound for consideration of a revised lead standard."<sup>(26)</sup>

As previously stated, the Lafarge inhalation assessment, using the most conservative Air Guide-1 screening calculations for maximum potential annual lead impacts, showed predicted impacts were considerably below (<0.47%) the Department's AGC (0.38 µg/m<sup>3</sup>) for lead. Considering the

lower bound estimate of 0.5 µg/m<sup>3</sup> instead of 1.5 µg/m<sup>3</sup>, for a revised lead standard as cited above, the equivalent standard derived from this value would equal an AGC of 0.13 µg/m<sup>3</sup> and the predicted impacts would be 1.4% of the AGC. The Department will continue to follow the review of the lead Criteria Document and supporting scientific literature. However, these predicted impacts, even when considering the lower bound estimate, still present negligible risk from this proposed modification to utilize TDF at Lafarge.

### **Test Burn Comments**

**Comment 50:** *There is no test burn required to determine what shape the kiln is in. Due to the variability from kiln to kiln, a test burn should be required. (Collins, Everingham)*

**Response:** The draft permit contains requirements for Lafarge to conduct a verification stack test following utilization of TDF to ensure the kilns can continue to comply with applicable regulatory and permit emission standards. Recent stack testing completed at the facility shows that the facility is currently in compliance.

**Comment 51:** *Tires should be shredded. Whole tires will have higher air emissions due to incomplete combustion. Burning whole tires is far more dangerous than burning shredded tires. (Collins, Winner, Falzon, Schiafo, Baker, Wistar, Brownell, Spivy, Collins, Ellis, Docktor, Greene, Knox, Hillman, Futterman, Buckner, Riese, Gordon, Swedenburg, Giammattei, Nyland, Pickett, Bowers, Bergen, Shulman, Blackburn, Baksa, Rubin, Parsons, Angelis, Powell, Motto, Hooper, Vosburgh, Foley, DeCaprio, illegible name)*

**Response:** See response to comment 9.

**Comment 52:** *EPA's October 1997 report "Air Emissions from Scrap Tire Combustion, EPA-600/R-97-115" on page 35 found that PM from the batch feed run experiments utilizing TDF crumbs are significantly higher than for conventional fuels. This suggests that burning TDF in batches, which roughly approximates feeding of whole tires, has the potential to form significant transient emissions. This could be exacerbated in a system that exhibits significant vertical gas-phase stratification, or operates at low excess air levels, such as cement kilns. (Baker)*

**Response:** Emissions data, that was provided in the application, is from full-scale implementation of whole TDF on cement kilns which would be expected to be more representative than suggestions from pilot or bench scale testing (see Volume 2 of the air permit application dated November 13, 2003). In

addition, the report also discusses the importance of steady-state mode of combustion in minimizing organic emissions and states as follows; “The size of the facility, however, will certainly impact the intensity of the transient emissions resulting from batch charging of tires or TDF since, for an extremely large facility, a steady stream of whole tires may roughly approximate steady-state operation. Even so, the potential for generation of large transients should not be ignored, especially in smaller facilities.” (Paul M. Lemieux U.S. Environmental Protection Agency Air and Energy Engineering Research Laboratory, July 1994, EPA/600/SR-94/070).<sup>(27)</sup> The LaFarge plant is an extremely large facility.

In addition, the installation of a mixing air fan would also be expected to reduce the potential for vertical gas-phase stratification in the cement kiln, to the extent it is present and improve combustion. The mixing air fan will re-circulate kiln air to create more turbulence but will also provide some fresh outside air which will add a small amount of additional oxygen to the kiln.

**Comment 53:** *Shredded and whole tires are combusted in the same vicinity of the kiln in order to achieve adequate combustion. Unlike coal, shredded tires are blown or injected into the kiln and combust to the point that is near where whole tires are introduced and combusted. Regarding composition, whole tires only differ through the removal of the steel belt in the case of shredded tires. The steel belt replaces iron a raw material required for cement. Based on the data from other sites, the emissions constituent most likely to increase the most with TDF versus coal is zinc. Zinc is part of the rubber in a tire and not the steel belt so emissions would not be expected to be significant different in the case of shredded tires. As long as steps are taken to ensure adequate combustion, emissions from TDF in shredded versus whole tires are expected to be similar. (Remsberg)*

**Response:** Comment noted. Also, see response to comment 37.

**Comment 54:** *Lafarge did not provide supporting data for emissions from the use of whole tires. The application essentially contains data from facilities that use chipped or shredded tires which makes comparison difficult. There is insufficient technical information provided by Lafarge governing the burning of tires in the manner and in the type of facilities that it has proposed here. This is a wet kiln, two kilns and mid-kiln insertion of whole tires. Only single stack results have been provided for a smaller facility in Colton, California which isn't analogous. (Falzon, R. Blumenthal, Baker, Wistar, Brownell, Schiafo, Feuerbach, Futterman, Kirkland, Gordon, Swedenburg, Davidson, Hegeman, Dunham, Giammattie, Nyland, Bowers, Von Pein, Bergen, Blackburn, Byrd, Baksa, Rubin, Gardner, Cooney, Hauptmann, Hopper,*

*Vosburgh, Foley, McMaster, Lebar, McGrath, Litteken, DeCaprio)*

**Response:** See response to comment 9.

**Comment 55:** *Lafarge is using data for burning shredded tires which causes less*

*pollution and there is no guarantee they won't use whole tires in their incinerator. (Evans)*

**Response:** The proposed project is for the use of whole tires in the cement kiln. (See the Full Environmental Assessment Form p. 2 and other application submittals).

**Comment 56:** *Lafarge provided a significant body of data representing emissions from other cement plants utilizing tire derived fuel. The data represents facilities utilizing whole as well as shredded tires. More than half of the reports cited are from plants that utilize whole tires. (Remsberg)*

**Response:** Comment noted.

**Comment 57:** *The economic and environmental impacts of having to shred tires makes shredded tires a less desirable option. To make one inch tire chips using a portable shredder using diesel fuel would take approximately 200,000 gallons per year of diesel fuel to produce the 24,000 tons of tires that can be consumed at the Ravenna Plant. Based on EPA emissions factors for diesel fuel combustion, that would lead to the unnecessary generation of up to 66 tons per year of NOx that would be completely avoided through the use of whole tires. (Remsberg)*

**Response:** Comment noted.

**Comment 58:** *If they wanted to shred tires they could gear off the kiln itself as it's rotating to shred them. It's ridiculous to say they're going to burn fuel because they can't shred it. There are ways to shred tires other than burning more oil. (Travers)*

**Response:** The common established practice for shredding tires is the use of large mechanical shredding equipment typically powered by diesel generators.

### **Cement Kilns and TDF Usage Comments**

**Comment 59:** *Cement kilns are not made for burning tires. Cement needs a minimum of oxygen and tires requires more for complete combustion. A kiln is not an incinerator. (Collins, Depew, Westwind, Phillips, Schiafo, Donahue, Travers, Feuerbach, Jung, Hopper, Vosburgh, Foley, Osterink, Greenfield,*

**Response:** TDF has been permitted at over 40 cement plants on 65 kilns in the United States, including at two cement plants in New York. Cement kilns are designed to operate on a continuous basis to ensure a quality product is produced. TDF in a cement kiln is a fuel needed to make a product, clinker, whereas in an incinerator, the sole purpose is waste disposal. A cement kiln provides an environment where TDF can be combusted safely based on (i) the high temperatures, (ii) the residence time and (iii) turbulence.

Kilns typically have higher temperatures than incinerators (from 1,000 to 1,400°F higher than the normal operating temperature of an incinerator). In an incinerator or boiler temperatures must be kept lower to not burn a hole through steam tubes, or mineral rock in the fluidized bed, or in the incinerator lining. In a cement kiln, temperatures must be kept consistently high in order to melt or fuse the raw materials into new mineral compounds. The result is operating conditions capable of combusting a tire in less than 30 seconds.

In a kiln the residence time (e.g. the length of time that a substance can spend in the combustion environment and be subjected to temperature and operating conditions sufficient to cause it to be destroyed) is longer than in an incinerator. As tires burn, their off-gasses are drawn up kiln and continue to combust in the kiln's high temperature gas stream. The residence time of the TDF combustion gases in the Lafarge Ravenna kilns is expected to be about 6 seconds at temperatures greater than 2000°F. While incinerators have a residence time of between 0.5 and 3 seconds at temperatures at or below to 2000°F.

A cement kiln has a strong swirling rotation of gases through the kiln due to the kiln's rotation. In incinerators, turbulence is created by the flame and the combustion chamber design. In a kiln, tires do not require additional oxygen for complete combustion. However, Lafarge has proposed to add mixing air fans to further enhance combustion. The air from the mixing air fans provides the necessary kinetic energy to introduce additional turbulence into the flue gas stream to prevent gas stratification in the kiln that can cause areas of localized reducing conditions that generate carbon monoxide (CO). The mixing air fans will re-circulate kiln air to create more turbulence but will also provide some fresh outside air which will add a small amount of additional oxygen to the kilns.

The CO concentration at the feed end of the kilns is monitored continuously as an indicator of complete combustion. The CO concentration in the flue gas can be controlled to some degree by changing the fuel feed rates and the

air flow rates into the kiln. It should be pointed out that emission of gaseous pollutants generated from the clinker manufacturing process are interactive, so an operator's focus on the control of a single pollutant (such as CO), if not properly managed, could lead to changes in emissions of other regulated pollutants. For this reason, increases in CO emissions cannot be entirely mitigated by operator control.

If an upset condition occurs in either kiln, tire injection to that kiln will be stopped in accordance with the Department approved startup/shutdown and malfunction (SSM) plan (see response to comment 61).

The Department specifically asked Lafarge to evaluate the proposed TDF and kiln modification's effects on emissions from the process. Lafarge provided graphical representations of the kiln temperature and oxygen profiles with and without tires as modeled by the Lafarge Fourca modeling software. The Lafarge Fourca program is a proprietary finite element model that provides temperature and oxygen profiles along the kiln; and, it performs a series of heat and mass balances on discrete sections along the length of the kiln. The calculations are done every 1 degree Celsius and account for the major chemical reactions that occur in a kiln including combustion reactions and calcination/clinkerization process. The model is not designed to evaluate any impact from a mixing air fan.

The model details the change to the kiln temperature and oxygen profiles with mid-kiln combustion. The temperature in the burning zone (down kiln of the injector) will be reduced as a result of lowered main fuel heat input. The temperature in the calcining zone, where the tires are injected, will increase slightly. This supports the mechanism theory and practical experience on NOx reduction with mid-kiln firing. The oxygen content down kiln of the injector will be higher while oxygen content up-kiln of the injector will essentially remain unchanged.

The mixing air fan should have a moderate impact on the TDF temperature and oxygen profiles. Comparing the base case profile to the profile with TDF, the burning zone temperature will be higher and oxygen content lower (approximately 5%), since the combustion air will be provided in the mid-kiln area where TDF combustion begins. Uphill of the injector, the temperature will be slightly lower due to the mixing of any stratified gas layers, while the oxygen content will not change.

The modeling does demonstrate that the temperature and oxygen profiles for mid-kiln TDF firing provide ideal combustion conditions. The tires will be subjected to gas temperatures of 1400-1620 °C (2550-2950 °F) in a gaseous environment of approximately 6.5% oxygen while traveling slowly down-

kiln. Tires ignite (flash point) at 550- 650 °F (288-343 °C), carbon begins to burn at 842 °F (450 °C) and the carbon is completely burned at 1202 °F (650 °C).<sup>(28)</sup> Based on the speed of the material bed, a tire would require 39 minutes to cover the 50 m (165 ft) distance to the kiln discharge. Obviously, the combustion of the tire is fully completed well prior to this point.

The resulting gaseous combustion products from the TDF will travel up-kiln and will be subjected to 1200-1580 °C (2190-2870 °F) for approximately 70 m (230 ft). This will occur in an oxygen environment of approximately 2%. From this same model the residence time of the combustion products from tire injector to the back of kiln is approximately 8 ½ seconds while the residence time from the tire injector to the position where the gas temperature falls below 500 °C (932 °F) is approximately 7 ½ seconds. Note that the farther the tire travels down-kiln, the resulting combustion gases are subjected to higher temperatures and the longer the residence times in the higher oxygen environment of the burning zone.<sup>(29)</sup>

**Comment 60:** *Cement kilns do not require the same type of monitoring that an incinerator would. Waste tire incineration should be regulated like medical waste and hazardous waste. (Cummings, Collins)*

**Response:** State and federal regulations establish monitoring requirements for portland cement plants. This includes continuous emissions monitoring for specific parameters (e.g. NO<sub>x</sub>, opacity and temperature), periodic stack testing, and other tracking and reporting to ensure that emissions meet all state and federal regulatory requirements. In addition, Lafarge has also proposed to install a continuous emission monitoring system for carbon monoxide as part of the TDF project.

**Comment 61:** *Cement plants are subject to upsets that will cause fluctuations in the way tires are burned and increase the likelihood that toxins will be emitted. Kilns upset more with tires. Kilns have more upsets, malfunctions, and changes in temperature. (Winner, Falzon, Depew, Reed, Guthridge, Monkash)*

**Response:** As part of the draft permit conditions, TDF will not be used during startup, shutdown or during a malfunction. The kilns are continuously monitored by “smart” computer control systems and trained operators 24 hours a day, 7 days a week. In the event of an upset, the use of TDF will be ceased. Due to the high kiln temperatures, tires in the kiln will combust within 30 seconds. The Ravena Plant is also subjected to the Portland Cement NESHAP requirements and are required to maintain a Startup, Shutdown and Malfunction (SSM) Plan which includes instructions to the kiln operators on

how to manage these conditions in order to reduce air emissions that might occur during SSM events. The draft permit condition has been modified to require Lafarge to revise the existing SSM plan to include TDF firing and to submit the revised plan for Department approval. TDF cannot be introduced into the kilns without Department approval of the revised plan.

**Comment 62:** *Emissions from tires result in vast amount of dust, not captured by pollution control equipment required at solid waste incinerators. If Lafarge wants to burn tires, they must follow regulations for solid waste incinerators. (Davis, Monkash)*

**Response:** The stack at the Lafarge plant has a hot-sided electrostatic precipitator (ESP) for particulate control. In addition, the fugitive dust plan will be updated to include and dust issues associated with the use of TDF. There are state and federal regulations that are specific for the Portland Cement Industry that Lafarge is required to comply with.

**Comment 63:** *There is no technology really adequate for the burning of tires. (Blackman)*

**Response:** See response to comment 59.

**Comment 64:** *TDF is so new technology and the information hasn't been around long enough to create a basis in fact as to the dangers involved. Modeling is an artificial situation – look at disaster preparedness modeling in New Orleans. This is an untried technology without a scientific basis in fact behind it to substantiate anything other than model situations. (Travers)*

**Response:** See response to comments 1, 4, 9 and 59.

**Comment 65:** *Regarding startup, shutdown and malfunctions, tires cannot be used until full production is maintained for four hours and tires will not be used during shutdown or malfunctions. Even when the kiln is stopped and fuel shut off it takes almost 24 hours for a kiln to cool down so tires will be combusted within 15 to 30 seconds. A kiln is not an incinerator, we are proposing to use scrap tires a fuel. A kiln has a long residence time of roughly 30 minutes and strong turbulence. Mixing air fans are being added to enhance combustion. (Vahue)*

**Response:** Comment noted.

**Comment 66:** *I believe emissions from startup, shutdown and malfunction events will not*

*be significantly affected by TDF for several reasons. First, kilns at the Ravena Plant rely on a continuous modern smart computer control system. Second, operators are highly trained and skilled. Third, the kilns process and certain emission parameters are monitored 24 hours a day, 7 days a week including opacity, NOx and ESP inlet temperature to the electrostatic precipitator. If the permit is granted a COM would be added for carbon monoxide. Fourth, the kilns operate at very high temperatures above the melting point of the steel belts in the tires. A tire is combusted within 30 seconds of entering the kiln. In the event that the heat was unexpectedly reduced or stopped, the thermal heat momentum is sufficient to ensure TDF is combusted until such time the operator can return the kiln to normal operation. (Remsberg)*

**Response:** Comment noted.

**Comment 67:** *We are concerned that the kiln burning fuel for which it was not designed be operated cleanly. We need to be shown that the operation will be conducted in the safest way with the best technology available, and that technology is available and not being proposed by Lafarge Cement. (Collins, Sebren, Dunham, Smith)*

**Response:** See response to comment 59.

**Comment 68:** *A cement kiln offers three operating conditions that contribute to safe combustion of TDF: time, temperature and turbulence. There are approximately 4 seconds of residence time for the gases in the kiln system, temperatures of 1,500 °F or greater at the point of tire injection with a peak flame temperature around 3,000 °F and the turbulence created by the dynamic environment of the cement kiln. In combination, this operating environment can safely convert TDF to energy and could be viewed as superior to that of combustion of TDF in a boiler. (Remsberg)*

**Response:** Comment noted.

### **Age of Plant Comments**

**Comment 69:** *The Ravena Plant and kiln are old and have 1960's technology so air emissions will be higher. There are no significant upgrades in the equipment and techniques planned for tire burning. This is an antiquated low technology approach. Lafarge facility's technology is close to thirty years out of date.*

*Lafarge should propose upgrading the 1962 technology and DEC should mandate that happens so there is environmental benefit. (Collins, Winner, Pratt, Spilman, Lick, Reid, Van Deusen, Swartz, Deyo, Schiafo, Donahue,*

*Blechman, Jung, Reed, L. Collins, Depew).*

**Response:** Lafarge has spent over \$12 million in upgrades between 2001 and 2003 and another \$26 million is committed through this year. In 2000 and 2001 the two electrostatic precipitators (the particulate emissions control equipment for the kilns) were overhauled and upgraded. All kilns, old or new, must have high stable temperatures operating with a flame temperature of roughly 3,200 degrees. All plants, old or new, must comply with all state and federal regulations. Kilns also regularly undergo inspections and overhauls including physical replacement of kiln shell sections. Expert control systems are used with continuous monitoring and adjustments. Time, temperature and turbulence for combustion are not a function of a kiln's age. Lafarge has also proposed installing mixing air fans and a continuous emissions monitor for carbon monoxide as part of the TDF proposal.

In addition, the Department will require Lafarge to submit an analysis of the potential actions that could be taken to reduce mercury emissions from the Ravena Plant as part of their Title V renewal process in April 2006. These potential actions could include changes and upgrades to the existing air pollution control equipment.

### **Temperature Comments**

**Comment 70:** *One message is regarding the temperature. Does that mean that the ambient temperature of the air will rise, by a quarter of a degree, a half a degree? What will the effect be on school athletics if there is a raise in temperature and on the Hudson River? (Marshall)*

**Response:** The total energy input to the kiln system is expected to be roughly the same as with the fuels currently used at the plant. This is because less solid fuel is expected to be burned when it is partly replaced by TDF. Therefore, the use of TDF is not expected to alter the amount of heat energy emitted from the Ravena plant. There will be no measurable change in ambient temperature in the community or on the Hudson River resulting from the use of TDF in the kilns.

### **Specific Community Impact Comments**

**Comment 71:** *East Nassau will have air quality impacts due to the higher elevation than the Plant. Air rises at it cools and often results in precipitation. The precipitation forms around particulate matter combined with moisture, water molecules, which will come down on the village and elsewhere. (Hendricks)*

**Response:** See response to comment 1.

**Comment 72:** *I'm from Connecticut and it seems the Attorney General has decided to write about how this proposal is not a good idea. About 5 million tires from New York come into Connecticut for TDF. That means traffic and additional pollution. We are very happy in Connecticut using TDF and why is it ok for Connecticut, his state and not okay for New York a far away neighbor? I question his motives. (Evans)*

**Response:** Comment noted.

**Comment 73:** *Kinderhook is concerned that we would be bearing the brunt of the need of dealing with tires as solid waste. Perhaps, we won't, perhaps we are going to. We need to know more information. There are no assurances or guarantees that air in northwestern Columbia County (and Kinderhook in particular) will remain as relatively fresh and clear as it is now. (Collins, Dunham)*

**Response:** See response to comment 1.

**Comment 74:** *We understand that tires used will not benefit Columbia County or any other regional area where old tires are accumulated. This is of considerable importance to New York State and to our region of the Hudson Valley in particular. (Dunham)*

**Response:** Tires would come from within a 200 mile radius of the Ravena Plant, which would include Columbia County. (See Beneficial Use Determination, Section 4).

### **Regulatory Standards Comments**

**Comment 75:** *There are not regulatory standards for many pollutants. Standards are developed at the state and federal level as a product of the influence of industry and its lobbyists. It is not the equivalent of protection of health in the environment. NESHAPs for portland cement plants don't apply to sulfuric acid and mercury and total hydrocarbons. In 2000 the Federal Circuit Court for the District of Columbia overturned these MACT and directed EPA to create better standards and it hasn't done so yet. DEC must fill the hole through exercise of its authority under Part 212 and SEQRA. (Baker)*

**Response:** See response to comments 5 and 11.

**Comment 76:** *Lafarge may meet certain pollution level standards because the standard is too permissive. Just because its legal to pollute doesn't mean it's right or safe. (Jamison)*

**Response:** See responses to comments 1, 11 and 12.

**Comment 77:** *DEC said at another meeting regarding air emissions that the standards promulgated by the State of New York are not designed to protect human health. They are based on the best available technology. People are allowed to pollute if there isn't a technology that permits them to clean their pollution up beyond a certain level. If standards were promulgated to protect human health no one would be allowed to emit dioxins or furans even in tiny amounts below what we can actually measure. DEC is saying that there's an acceptable level of increases in cancer cases in the down wind population and the increase in cases will be traded off for the economic benefits. (Depew)*

**Response:** The commenter is confusing the Federal Air Toxics program with the State Air Toxics program. The Federal Air Toxics program requires the development of industry-specific technology-based standards for major and area sources of HAPs without addressing the issue of public health and environmental impacts until eight years after the NESHAP is promulgated. The State Air Toxics program addresses public health and environmental impacts simultaneously when making air pollution control decisions through 6NYCRR Part 212 and Air Guide-1. 6NYCRR Part 212 has an environmental rating system which takes into consideration: a) toxic and other properties and the emission rate potential of the air contaminant; b) location of the source with the respect to residences or other sensitive environmental receptors, including a consideration of the area's anticipated growth; c) emission dispersion characteristics at or near the source, taking into the physical location of the source relative to surrounding buildings and terrain; and d) the projected maximum cumulative impact of taking into account emissions from all sources in the facility under review and the pre-existing ambient concentration of the air contaminant under review. The assigned environmental rating along with the emission rate potential is used to determine the necessary air pollution control technology requirements. See additional comments about derivation of values to protect public health in response to comment 1.

**Comment 78:** *Regulations are not weak – New York has more than any other state. (Howlinger)*

**Response:** Comment noted.

**Comment 79:** *Lafarge should be operating under stricter rules. (Greenfield)*

**Response:** Comment noted.

## Opacity Deviations and DEC Enforcement Comments

**Comment 80:** *Commenters noted concerns with compliance with the Title V air permit, as well as specific concerns regarding opacity. Commenters suggested the Title V air compliance summary reports Lafarge submits to DEC show increasing opacity deviations (commenters cited specific instances of deviations from these reports). Lafarge's application notes that opacity is continuously monitored and serves as a surrogate for PM emissions that in turn, serve as a surrogate for metal hazardous air pollutant emissions. Opacity exceedances were repeatedly caused by equipment malfunction, equipment wearing out, poor and inadequate monitors, and inadequate operating procedures, and human error. Why are there exceedances, what has been done to prevent a reoccurrence and why have no actions results? Many occurred during start up. There is no legal standard that allows a 1% compliance deviation as acceptable. Deviations are not minor. DEC should not consider the application until Lafarge can provide an adequate explanation for its operating problems and provide a plan for fixing them. Lafarge's track record concerning compliance with its existing Title V permit raises significant concerns about its ability to manage the process associated with burning whole tires in a manner that both complies with a permit and is protective of human health and the environment. (Falzon, Teague, Baker, Deyo, Wistar, Brownell, Edwards, Schiafo, Jung, Spivy, Knox, Buckner, Thurston, Gordon, Swedenburg, Sklansky, Giammattei, Reed, Bowers, Blackburn, Adelman, Rubin, Parsons, Malina, Gardner, Powell, Osterink, Lebar, Bennett, McGrath, Litteken)*

**Response:** Some of the specific instances cited occurred prior to Lafarge's ownership of the facility in mid-2001. The Department has reviewed facility data since the mid-1980's to see the trend. Since Lafarge's ownership, compliance has improved significantly. The percent of time that opacity has exceeded 20% is below 1% of the operating time. State and federal regulations recognize that during startup, shutdown and malfunctions there are inevitable exceedances (in the case of case of malfunctions, unplanned) and the regulations provide for these. The emissions standards under the federal Portland Cement NESHAP do not apply during periods of startup, shutdown and malfunctions, therefore, exceedances are not considered violations. Under state regulation (see 6NYCRR Part 201-1.4), exceedances, during periods of maintenance, startup/shutdown, and malfunction, may be excused if they are unavoidable. The Department considers whether an exceedance was unavoidable or if there are repeating/recurring exceedances which may indicate a lack of proper operation and/or maintenance. We have not identified these issues with regards to Lafarge's exceedances There is no set regulatory standard for enforcement actions, instead the Department considers the trends based on the data and reviews the exceedances

themselves to determine if enforcement is warranted.

**Comment 81:** *In addressing issues raised during the comment period, first in respect to compliance history, there have been references to the previous owner's compliance history and penalties that happened before Lafarge purchased the facility in mid-2001. Compliance has improved significantly. Since 2001 the percentage of time that opacity exceeded 20 percent has dropped to less than one percent of total operating time. Improvements are due to many factors including upgrades of electrostatic precipitators and operational improvements. Critics have stated the Plant built in the early 60's is old with old technology and is not suitable for TDF. Over \$12 million has been spent in upgrades between 2001 and 2003 and another \$26 million is committed through this year. (Vahue)*

**Response:** Comment noted.

**Comment 82:** *Lafarge lied when it said over its time of its ownership of the plant its down time was less than one hour and their own documents that they're required to produce reveal that the actual down time is longer. What else are they lying about? (Travers)*

**Response:** The commenter appears to be referring to the percent of operating time where there were opacity exceedances, which are less than 1% of operating time.

**Comment 83:** *What determines a consistent pattern for how long or how frequently or at what percentage exceedance must a plant be operating before the DEC expresses a concern or enforces permit conditions? (Falzon)*

**Response:** See response to comment 80.

**Comment 84:** *How is DEC's handling of Lafarge's deviations consistent or inconsistent with DEC's handling of other industrial facilities with similar violation patterns? We are aware of other industrial facilities in the state subject to far stricter enforcement of the opacity standard where every 6 minute deviation is the subject of an enforcement action. We were not provided any documents as requested by our FOIL request and a meeting was denied. (Falzon, Baker)*

**Response:** See response to comment 80. The commenters did not identify the other facilities or provide specific information for the other industrial facilities noted in their comment. Requested information has been provided to the commenters.

**Comment 85:** *We need to have a better understanding as to how these exceedances, whether DEC considers them minor or not, are affecting the air that the public breathes. (Schiafo)*

**Response:** Lafarge provides estimates of ground level ambient air particulate concentrations during periods of opacity exceedances. Those estimated ground level concentrations have been below the 24 hour National ambient air quality particulate standard.

**Comment 86:** *There is a lack of DEC enforcement for opacity deviations and/or other permits. One commenter in an email to Blaise Constantine requested a meeting with him and DEC staff to learn if DEC feels any action is warranted and measures that can be undertaken to address these issues before the proposal for burning TDF is given further consideration. If there is no satisfactory movement on this in the near future, Friends of Hudson will send a notice letter for a Clean Air Act citizen's suit. (Baker, Falzon, Teague, Deyo, Wicks, Schiafo, Donahue, Ellis, Dougherty, Giammattei, Betzel, Albrecht)*

**Response:** Comment noted.

**Comment 87:** *DEC is not adequately monitoring Lafarge's emissions, enforcing regulations, and performing those actions necessary when and if they exceed standards, regardless of the percentage of the standards. Lafarge is not being held to the same standards as ordinary citizens – a car inspection is required every year and if it doesn't pass the car can't be driven. (Rubin, Croft)*

**Response:** See response to comment 80.

**Comment 88:** *Will DEC have the resources to keep an eye on the project? What will be the protocols for day-to-day enforcement and observation? (Hendricks)*

**Response:** Lafarge is required to submit periodic reports to the Department regarding emissions data, deviations, and stack tests. In addition to the review of the submitted reports, the Department makes periodic compliance inspections of the facility. The Department will also review and approve stack test protocols and monitor the stack test, as it did with the baseline stack test.

**Comment 89:** *I would like to see an inspection done at the plant and have them make improvements of the emission controls set in place at the present time. (Doyle)*

**Response:** See response to comment 88. As part of the permit application Lafarge

proposes to add mixing air fans to enhance combustion and install a continuous emissions monitor for carbon monoxide.

**Comment 90:** *Who is to examine them? Who is to guarantee their compliance with what they have put on paper? (Flynn)*

**Response:** See response to comment 88. A verification stack test is also required in the draft permit to confirm actual air emissions.

**Comment 91:** *The comment noted concerns with Lafarge's track record operating the plant, particularly over the past half decade. There have been repeated frequent incidents of the plant operating substantially in excess of its permitted levels, sometimes for an hour or more. Commenter noted these should be corrected and future compliance strictly monitored and enforced and that lapses would be more serious when the more potent toxins from tire burning are involved. (Depew)*

**Response:** See response to comment 80.

**Comment 92:** *Commenter asked if DEC does not enforce compliance now, how it would do so when additional, more harmful emissions are involved? (Depew)*

**Response:** The Department has enforcement powers and uses them to enforce State environmental conservation law and federal environmental regulations associated with the permitting of Portland Cement Plants. Also, see response to comment 80.

## Compliance Comments

**Comment 93:** *Let DEC do their job and they will make Lafarge comply. (Howlinger)*

**Response:** Comment noted.

**Comment 94:** *Lafarge has a poor compliance record. They are unable to operate the plant safely and effectively currently, so there is concern about their inability to effectively handle the increased complexity of tire burning. Lafarge has misled the public about their record. There has to be an exchange and plan to remedy past operating deficiencies, which are violations. The applicant has failed to meet its burden demonstrating compliance with applicable laws and is not entitled to issuance of the permit. The compliance problems need to be addressed before moving forward. (Falzon, Lawrence, McCully, Baker, Birckmayer, Sebren, Giblette, Blackburn, Hopper, Vosburgh, Foley, Monkash, DeCaprio)*

**Response:** See response to comment 80.

**Comment 95:** *DEC should look back at the compliance history and see if there have been problems, if those problems have been addressed, whether they have been corrected by the applicant, or whether they have been recurring. (Hendricks, Ellis)*

**Response:** See response to comment 80.

**Comment 96:** *Based on Lafarge's spotty compliance record to date, the company's stated intention to use existing, somewhat antiquated facilities for this radically new and potentially dangerous use gives me great pause. Unless you can be certain that the process is safe (and as clean as the best technologies allow, do not permit it. (Rubel)*

**Response:** See response to comments 1, 4, 59, 69, and 80.

**Comment 97:** *Lafarge's risky proposal would add many dimensions of complexity to the management of an already troubled plant. Burning tires requires the very strictest monitoring and controls and the highest levels of operational quality. Given the risks involved, and since the current application does not provide such high levels of assurance, I urge the State to suspend its review pending further review of all the above concerns. I will be watching closely for the outcome of your decision on this matter. (Falzon)*

**Response:** See response to comments 1, 4, 59, 69, and 80.

**Comment 98:** *Lafarge is already guilty of polluting the air and has been sanctioned by the EPA for doing so. (Donald)*

**Response:** The Department is not aware of any EPA sanctions against the Lafarge Ravenna Plant. The facility is currently in compliance.

**Comment 99:** *I oppose the tire burning proposal. This development should be stopped due to the fact that the Ravenna plant has already been cited by you for numerous violations of DEC rules. (Graper)*

**Response:** The Department has taken enforcement actions against the Ravenna plant for past violations of the Department's rules and regulations. Those violations have been resolved.

**Comment 100:** *Lafarge's Ravenna Plant has been cited by the DEC for air quality violations on several occasions during the past few years and Lafarge*

*already received the largest fine ever levied by the NYSDEC against a New York cement plant, for their various environmental violations. (Travers, Greene)*

**Response:** There have been no air quality violation citations since Lafarge assumed ownership and started operation at the Ravena Plant in July, 2001. The fine cited by the commenters was against a previous owner prior to Lafarge's ownership of the Ravena Plant. Also see response to comment 80.

**Comment 101:** *In reviewing the draft permit by DEC and plant permits, I believe the facility should be able to comply with the applicable requirements following the implementation of TDF. (Remsberg)*

**Response:** Comment noted.

**Comment 102:** *There's the issue of you at DEC really being able to stay on top of Lafarge, my husband is a state employee so I know many departments are having to try to make do with fewer employees and some departments don't have the power to do more than give a slap on the wrist. (Feuerbach)*

**Response:** Comment noted. Also, see response to comment 88.

**Comment 103:** *We need much more information about the environmental record of Lafarge. (Rieser)*

**Response:** Any information that the Department has is available to the public through a freedom of information law request.

### **Cumulative Impact Comments**

**Comment 104:** *DEC needs to assess cumulative impacts in the area and Hudson Valley. During a temperature inversion pollutants from Athens Incinerator, Lafarge, GE Feura Bush, NiMo, and Glenmont get trapped and move west to east. In the Lafarge vicinity we are already exposed to pollution from the Thruway and Berkshire Spur, the railroad and CSX diesel trains, Amtrak trains, the Texas Eastern gas line, the current cement dust in the air, the noise of railroad car cleaners, and boat traffic. Over 2,000 tons of toxic materials are released by Owens Corning Fiberglass and GE Plastics. Area air quality is declining over the last 10 years. DEC should limit emissions, roll back emissions or eliminate emissions. DEC must not permit this or any local industry to increase the pollution burden to this community. (Cumming, Depew, Pratt, Wicks, Rice, Ellis, Travers, Greene, Giammattei)*

**Response:** This project seeks to only replace one fuel with another and the potential

public health impacts of this change have been evaluated by the Department and are expected to be insignificant. See response to comment 1. In addition, in relation to the Prevention of Significant Deterioration (PSD) program, the proposed modification is not expected to result in a significant net emissions increase that exceeds the PSD applicability thresholds. The draft permit includes permit conditions which address compliance with this important federal program which was developed to prevent the significant deterioration of air quality. This program insures that the permitting of industrial facilities will occur in a manner consistent with the preservation of clean air resources in the area. Since administration of the PSD program is currently not delegated to New York State, the federal government, through the Environmental Protection Agency, is responsible for administering this program. Based upon the information provided in the application and the proposed permit conditions, the project is not subject to the full PSD review process. EPA Region 2 has reviewed the application and draft permit and has stated that a PSD determination is not required at this time.

### **Monitoring Comments**

**Comment 105:** *Commenters requested a thorough review of the monitoring protocol for the stacks to ensure that emissions from the plant are being monitored stringently. (Reid, Van Deusen, Swartz)*

**Response:** The baseline emission stack test protocols submitted by Lafarge were reviewed and approved by the Department. The Department also witnessed the most recent stack test. Further testing and monitoring proposed in the draft permit will be subject to the Department's review and oversight.

**Comment 106:** *I would not object to the installation of air quality monitoring devices being installed at my house for base line tests and future monitoring of air quality. (Jaffe)*

**Response:** The Department employs a statewide ambient air monitoring program to assess compliance with state and federal regulations. In order to ensure that local air quality near the Lafarge Ravenna plant meets these standards, the Lafarge plant is required to comply with numerous air permit requirements, specifically identified in the plant's Title V permit, and includes numerous conditions for operating control devices, continuous emissions monitoring, stack testing and other requirements to maintain air emissions within acceptable levels. In addition, these permits and requirements allow for the Department and EPA to inspect the facility and detailed records required to demonstrate compliance with permit requirements. With these measures in place, the need for ambient air quality monitoring has been reduced and local air quality can be reasonably assured to comply with state and federal requirements.

**Comment 107:** *There should be a restoration of the ambient air quality system similar to what was in place 15 to 20 years ago. It should be monitored by and independent lab and the results made public so we can access and identify and quantify the information on a regular consistent basis. (Clouse)*

**Response:** See response to comment 106.

### **Pollution Control Comments**

**Comment 108:** *We would also welcome a review for the necessity of scrubber technology at the plant to ensure air quality standards are being met. (Reid, Van Deusen, Swartz)*

**Response:** Comment noted. The proposed TDF project does not expect any significant change in sulfur dioxide emissions.

**Comment 109:** *The applicant applies to you (DEC) and puts out an efficiency of removal, in other words, how well they clean up the contaminant, but there day-to-day operating problem. How consistent are they in their removal efficiency is a question. (Flynn)*

**Response:** The Department requires the degree of air cleaning, which is ensured by the manufacturer's specifications, for the air pollution control equipment, and permit conditions which ensure that the emissions are in compliance with the regulatory limits. The Lafarge Ravena Plant kilns are equipped with electrostatic precipitators that have a design removal efficiency for particulate matter greater than 99%. Furthermore, to provide additional assurance that the kilns and air pollution control equipment are operating properly, continuous emissions monitoring and periodic emissions testing is required.

**Comment 110:** *At the very least, the major concession of allowing Lafarge to save on its fuel bills by burning whole tires should be accompanied by significant improvements in its air pollution controls. Equipment should be installed so that emissions should be cleaned to prevent intermittent discharges during upsets. (Reed, Guthridge)*

**Response:** See response to comment 69. The Ravena plant kilns have electrostatic precipitators as pollution control equipment. As part of the project, the proposed draft permit includes the installation of mixing air fans to enhance combustion.

### **Application Data Comments**

**Comment 111:** *The application, draft permit and baseline stack test do not provide*

*information needed to assess how TDF emissions were derived. (Blumenthal, Falzon)*

**Response:** See response to comments 2, 3 and 9.

**Comment 112:** *Lafarge has offered no details of how it calculated the emissions totals for criteria pollutants in its permit application, both for the baseline actual emissions and the projected actual emissions. Lafarge should provide detailed emissions calculations for all pollutants expected to be emitted during whole tire combustion so that the assumptions and basis can be evaluated for reasonableness. Data from similar facilities burning whole tires suggest that Lafarge was not sufficiently conservative in its emissions calculations. (Baker).*

**Response:** See response to comments 2, 3, 4, 5 and 9.

**Comment 113:** *Lafarge did not provide stack test data from other Lafarge plants burning whole tires. DEC should require this information. (Falzon, Deyo, Baker, Schiafo, Travers, Birckmayer, Greene, Reed, Giammattei, Nyland, Blackburn, Byrd, Rubin, McMaster)*

**Response:** See response to comment 9.

## **Draft Permit Comments**

**Comment 114:** *If this idea does go forward it should only be done with iron clad guarantees that if stack emissions from the plant rise above accepted limits at any time there is an automatic shut down system in place to turn off the furnaces. (Jaffe)*

**Response:** The draft permit includes requirements that TDF will not be used during startup, shutdown and malfunctions. In addition, continuous monitors for carbon monoxide, nitrogen oxides, and opacity will ensure that permit limits are not exceeded. Also, see response to comments 5 and 61.

**Comment 115:** *It is not clear from the permit as to whether the testing comes from the operations of kiln one or from kiln two. We would suggest they only be allowed to do kiln one until after the testing is complete. Testing should not be six months after the operation is started but in accordance with the federal MACT standards, 90 days after the change in fuels as this constitutes a significant change in feed stock of the facility. And they cannot go forward with the second stage and start using a second kiln until the results of those tests have been analyzed and any adjustments made. (Baker)*

**Response:** The significant change requirement under the Portland Cement NESHAP was designed to only be triggered when a change is contemplated that may be expected to adversely affect compliance with applicable standards (e.g., dioxin furans or particulate matter emissions). Based on the data contained in the application, there is no expectation that the use of TDF would be expected to adversely affect compliance by Lafarge at the Ravenna Plant with Portland Cement NESHAP emission limitations. Because there is no reasonable expectation that TDF would jeopardize compliance with particulate matter or dioxin/furans, the proposed is not considered a significant change by definition. Therefore, the 180 day test period contained in the draft permit is appropriate. Both kilns will be tested while firing TDF (see draft permit conditions 5-23 and 5-24).

**Comment 116:***While the permit contains a cap of 99 tons per year, without supporting calculations detailing how the projections were calculated and due to the fact that CO emission factors did not change since the previous submittal, we believe there is a reasonable possibility that CO emissions could exceed the cap. We agree that compliance should be determined on a rolling monthly basis and measured by a CEM. The specific methodologies and/or equations which will be used must be delineated in the permit. (Riva)*

**Response:** The carbon monoxide continuous emission monitoring system will be used to determine future actual emissions. Lafarge will be able to correlate carbon monoxide emissions data with and without TDF usage on a short and long term basis in order to demonstrate that the TDF project does not cause a significant increase in carbon monoxide emissions.

**Comment 117:***I understand that DEC has already issued a draft permit to Lafarge. Why such a rush to issue a permit, especially to a plant with such a bad track record? (Thurston)*

**Response:** The Department is required by state laws and regulations to make certain determinations within specific time frames. The first step is to determine if an application is complete – that there is all the information necessary for a full review. Regulations require two additional things. The Department must recommend to approve or deny the permit – here the Department recommended the preparation of a draft Title V permit. Secondly, the Department must make a determination under SEQRA either requiring an environmental impact statement or negative declaration. This has to be done when the application is deemed complete. However, no final decisions are made about the proposal until the end of the entire public process. The Department will review and consider the public comments before making any final decisions. Additionally, the permit process to date has taken more than two years and which indicates the careful consideration that the

Department has made regarding this permit action.

**Comment 118:***It appears that particulate emissions were retested in March 2005 to account for condensables, however PM-10 emissions from these latest stack tests were not used in determining baseline emissions as well as future actuals. Please ensure that all limits included in the Title V permit included condensables and that the appropriate test methods are referenced for determining compliance. (Riva)*

**Response:** Condensables will be included in the verification stack test. The Department will review and approve the stack test protocols used to ensure that appropriate test methods are used in future testing.

**Comment 119:***There is a need for considerable permit conditions including more frequent monitoring of both regulated criteria pollutants, as well as unregulated hazardous air pollutants, particularly for the regular monitoring for the dioxin furans, mercury and zinc. This data should be readily available to the public. (Schiafo)*

**Response:** Lafarge is already subject to monitoring requirements under the Portland Cement NESHAP. Lafarge will conduct additional stack testing after TDF usage has begun to validate the assumptions made in the application. The draft permit contains a provision to also install a carbon monoxide continuous emissions monitoring system. The Department periodically inspects the facility for compliance and Lafarge is required to submit its compliance status as part of its Title V permit. These records are public and may be viewed through a freedom of information law request to the Department.

**Comment 120:***40 CFR 63 Subpart LLL requires if an owner makes a change to operations that may adversely affect compliance, a new performance test is required. Although not specified what changes, an earlier version of the standard from June 14, 1999 stated that a test was required if there was a significant change in feed materials or fuels fed to the kiln including TDF above the rate used in the previous performance test (64 FR 31906). Under the current rule the owner can only operate under the planned operational change conditions for up to 360 hours. The draft permit requires a stack test in 180 days of first using TDF and it should be within 360 hours. (Baker)*

**Response:** See response to comment 115.

**Comment 121:***DEC should add ammonia to the list of pollutants to be tested to determine if the project is a major modification for this regulated pollutant. EPA has identified ammonia as a precursor of particulate matter and it is*

*therefore a regulated pollutant for PSD new source review. (Baker)*

**Response:** Ammonia is not a regulated New Source Review (NSR) pollutant and recently proposed rules for PM<sub>2.5</sub> NAAQS implementation would not require ammonia to be regulated as a PM<sub>2.5</sub> precursor. However, the Department required Lafarge to include ammonia in the baseline stack test and will require it to be measured in the future stack test with TDF.

**Comment 122:***The CO limit in the existing permit should not be increased. (Baker)*

**Response:** The existing Title V permit does not contain a limitation for CO. However, the EPA proposed changes to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry on December 2, 2005 which addresses the CO issue.<sup>(13)</sup> The EPA will establish emission limits for carbon monoxide and total hydrocarbons (THCs) for new and existing kilns. The Department will incorporate the final emission limits for THC and CO in Lafarge's Title V permit as permit conditions when the EPA finalizes the amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) from the Portland Cement Manufacturing Industry. Also, see response to comments 5, 8 and 11.

**Comment 123:***Blue Circle Atlantic wanted to burn hazardous waste, there should be a binding agreement with the company that this will not be done. (Clouse)*

**Response:** Comment noted. The current permit application for the proposed TDF modification does not include any burning of hazardous waste.

**Comment 124:***The permit should include testing and enforceable limits on air toxics including toxic metals, hazardous organics and other non-criteria pollutants associated with tire burning. Permit conditions 34 and 35 prohibit emissions from violating 6 NYCRR Part 212 and require testing and reporting at the discretion of DEC. Although Condition 5-24 requires initial performance testing for certain air toxics, it does not require emission limits as a result of the tests. Weaknesses in the MACT standards as shown by the DC Circuit Court's decision mean that DEC must regulate individual HAP emissions under 6 NYCRR 212. 40 CFR Part 63, Subpart LLL applies in addition to Part 212 not instead of it. DEC should reevaluate these limits after the initial stack test and adjust the permit as needed. (Baker)*

**Response:** See response to comments 5 and 11.

**Comment 125:***Lafarge should be required to conduct periodic stack tests to ensure that it does not exceed these limits once it begins regularly burning tires. (Baker)*

**Response:** The facility's Title V permit contains a significant amount of continuous

monitoring and stack testing to demonstrate compliance with applicable requirements. Under the Portland Cement NESHAP, testing for dioxin/furan emissions will be done at least once every 30 months, and particulate emissions testing done every 5 years. The Department can also require additional testing under the provisions of 6NYCRR Part 202-1; see draft permit conditions 5-15, 5-23, and 5-24.

**Comment 126:***DEC should establish enforceable limits on CO and zinc under Part 212 or go through the PSD review process. (Baker)*

**Response:** The proposed draft permit contains conditions to demonstrate compliance and non-applicability with new source review regulations. Based upon the information provided in the application and the proposed permit conditions, the project is not subject to the full PSD review process. EPA Region 2 has reviewed the application and draft permit and has stated that a PSD determination is not required at this time. In addition, see response to comments 11 and 127.

**Comment 127:***Of the CO provisions two are federally enforceable, two are state only enforceable. DEC must include a new condition, similar to Permit Condition 5-33 in the federally enforceable section.*

**Response:** Condition 5-33 has been moved to the federally enforceable section of the draft permit. Also, see response to comment 126.

**Comment 128:***There is no enforceable limit on CO emissions from the kiln, the emission unit directly affected by the proposed modification. The permit should cap total CO emissions from the kiln at a level equivalent to the kiln's past actual emissions (i.e. the baseline) plus 99 tons (one ton less than the 100 tpy significant net emission increase threshold. The permit should limit emissions of CO for the kiln to 1081.2 (baseline actual emissions plus 99 tons) if the baseline estimates are accurate as the permit provisions are confusing. (Baker)*

**Response:** The draft permit contains an enforceable net emissions increase limit of 99 tons per year for CO. Also, see response to comments 5 and 124.

**Comment 129:***DEC should revise the permit to specifically limit Lafarge to burning tires to 20%. FOH proposes to revise draft permit condition 59, item 59.3 to: "As a solid fuel, the kiln may also utilize tire-derived fuel (TDF) which may be fired in the kiln through a mid-kiln injection system and associated conveying and handling equipment. The plant may not use more than 20% TDF (approximately 6 tires per revolution) to replace the fossil solid fuel heat input to each of the two cement kilns. TDF will not be used during kiln start up and shut down; TDF usage will be ceased during malfunction. A*

*mixing fan will be installed in the kilns to aid TDF combustion.” (Baker)*

**Response:** Draft permit condition 59.3 has been revised to clarify that Lafarge is limited to a maximum of 20% TDF supplement. The 20% TDF supplement is the maximum and is based upon the TDF stack test results that were reviewed by the Department. The maximum percent TDF supplement in the permit may be reduced if necessary to ensure adequate environmental and public health protection.

**Comment 130:***There should be an 18-24 month probationary period that one or both kilns be operated under so we see what the results would be and better assess what will happen. The period will allow for validation of information and an opportunity to go or no go on this information. (Clouse)*

**Response:** Comment noted. The TDF project application states that the TDF system will first be installed on one kiln and TDF usage and emissions reviewed before the system is installed on the second kiln. In addition a stack test will be conducted after utilizing TDF to allow for the validation of emission information. (See air application pages 2 & 3).

**Comment 131:***Permit conditions 5-23 and 5-24 require a 2-run stack test within 180 days of using TDF, Condition 47 requires testing within 90 days of any significant change in the feed or fuel from that used in the previous performance test. The newer revised Condition 47 requires a new test if a source plans to undertake a change that can affect compliance with dioxins/furans or particulate matter standards. The source can only operate under the planned operational change conditions for up to 360 hours per 40 CFR 63.1349(e). Therefore, DEC should require testing within 360 hours of operations as we feel there will be increases in dioxins/furans and condensable PM. (Baker)*

**Response:** See response to comment 115.

**Comment 132:***Due to uncertainties inherent in the process and Lafarge’s ability to meet standards the construction and operation of the TDF process should be staged until test results are complete. DEC should permit the installation for only one kiln, require stack testing within 360 hours of operation and suspend permission to proceed to the second kiln until the test results have been obtained, analyzed and an opportunity provided for public comment. (Baker)*

**Response:** See response to comment 115.

**Comment 133:***Condition 5-24 requires stack testing and comparison of results to*

*determine if the project is a major modification under PSD. It does not explain what happens regarding the test results for toxic metals, organic compounds and other pollutants not subject to PSD or nonattainment NSR. Lafarge should be required to conduct an Air Guide 1 analysis for each air pollutant listed in Permit Condition 5-24 and not specifically limited regulated under PSD or NSR. The results should be used to adjust the proposed permit limits on air toxics and the review should be included into Permit Condition 24. (Baker)*

**Response:** The Department will review the data collected during the verification testing. At that time, the Department will determine if Lafarge is in compliance with their permit and if an updated Air Guide-1 analysis is warranted.

**Comment 134:***Conditions 65 and 66 establish criteria for NO<sub>x</sub> RACT under 6 NYCRR 220. Limits were based on the assumptions that only coal would be used. The NO<sub>x</sub> RACT should be reassessed and NO<sub>x</sub> reductions predicted reflected in the emission limits established for NO<sub>x</sub> RACT. The permit could include separate limits for NO<sub>x</sub> when burning coal only and coal and tires. These limits could be further broken down consistent with the current permit. RACT also changes over time as technology improves. Lafarge should be required to update its NO<sub>x</sub> RACT compliance plan. (Baker)*

**Response:** The NO<sub>x</sub> RACT program was designed to control existing sources at the time the program was initiated in the early 1990s. Lafarge has met their NO<sub>x</sub> RACT control obligations as identified in the facility's current Title V permit. The NO<sub>x</sub> RACT program does not have a re-review or update requirement that would be triggered by the proposed permit action.

**Comment 135:***The draft permit includes numerous overlapping permit conditions, particularly in the general conditions section which is confusing and makes the permit unnecessarily long. DEC should delete all superseded permit conditions or specifically label them in bold, capital letters as superseded. (Baker)*

**Response:** Comment noted.

**Comment 136:***Permit condition 5-22 condition is vague and must be clarified. Presumably Lafarge was required to prepare a NO<sub>x</sub> RACT compliance plan for the kiln. DEC should identify the affected emission units/sources and require the preparation of an appropriate compliance plan. Absent this information, it is not clear what purpose is served by this condition. (Baker)*

**Response:** Comment noted. Condition 5-22 has been changed to clarify the intent. The condition's regulatory citation has been changed from 6NYCRR Part 212.10

to 6NYCRR Part 212.10(f). There are currently no existing sources at the Lafarge Ravena plant that are subject to this RACT requirement. However, since the facility is major for NO<sub>x</sub> and VOC, any new process sources that may be constructed at the facility would be subject to the provisions of Part 212.10(f).

**Comment 137:** *Permit Condition 59 references the dust scoop #2 to be installed in 1999 and the CKD pelletizer system to be installed in 1998. If these were installed, DEC should revise this condition to reflect the change or if not, DEC should reconsider whether the equipment is properly referenced in the permit. (Baker)*

**Response:** Draft permit condition 59 has been revised. The processes, sources, and emission points have been revised to reflect the fact that both the CKD pugmill system (which replaced the pelletizer) and the kiln 1 dust scoop have been installed, while the kiln 2 dust scoop has not yet been installed.

**Comment 138:** *Permit Condition 5-32 should require that the Fugitive Dust Control Plan be submitted concurrently with the tire burning stack test protocol for the first kiln. Copies should be made available for public review to allow all interested parties to comment. (Baker)*

**Response:** Comment noted. The proposed draft permit does require that the Fugitive Dust Control Plan be updated and submitted to the Department concurrently with the TDF stack test protocol. Information submitted to the Department is available through a FOIL request.

#### **Verification Stack Test comments**

**Comment 139:** *The testing in the draft permit is limited to a very small number of criteria contaminants and does not include many of the toxic metals and organic compounds and other pollutants not subject to the regulations. There should be a comprehensive testing program required and an analysis to determine where the impacts are coming from this project. (Baker)*

**Response:** A comprehensive stack test was conducted and the data is in the application. The verification stack test will also include the parameters measured in the baseline stack test.

**Comment 140:** *Lafarge is committed to performing a validation test following the installation of the delivery system to confirm the information submitted as part of the application. (Vahue)*

**Response:** Comment noted.

## Department of Health Comments

**Comment 141:***The Department of Health should be part of the hearing and review to determine potential long-term and general health effects. (Cummings, Reid, VanDeusen, Swartz, Ellis )*

**Response:** A copy of the application was provided the Albany County Department of Health. In addition, staff at the Department had conversations with staff at the State Department of Health about the Department's review of the application and Air Guide-1 analysis.

**Comment 142:***DEC and the Department of Health should consider the consequences of the increase in ground level atmospheric lead levels due to burning tires in the cement kiln. (Marks)*

**Response:** See response to comment 49.

## SEQR and Public Comment Period

**Comment 143:** Commenter requested that the application be made available in public libraries in Connecticut. (Blumenthal)

**Response:** A copy of the application was provided to the Connecticut Attorney Generals Office.

**Comment 144:***Commenter requested extension of the comment period to 120 days until December 3, 2005 (Depew)*

**Response:** The public comment period was extended 30 days until October 3, 2005. The total public comment period was 70 days.

**Comment 145:***Commenter requested additional hearings especially in Columbia County, Rensselaer County and Berkshire County, Massachusetts to provide information to and solicit comments for those in the path of emission. (Depew)*

**Response:** Comment noted. During the public comment period, two public information meetings and two legislative public hearings were held, and the comment period was extended in order to give interested parties the opportunity to comment. In addition, copies of the application and supporting information were available for inspection at the regional DEC office and two local libraries. Commenters could submit comments orally at the legislative hearing or in written form including via email or mail. The Department does not expect adverse impacts on public health and the environment as a result of this project for the residents of New York, Connecticut, or Massachusetts.

**Comment 146:***Commenter requested that DEC provide the application in electronic format on the web and provide it widely to area libraries. (Depew)*

**Response:** The application and supporting data are available at the DEC's Region 4 Office, the Ravena Coeymans Selkirk Community Library, and the Castleton Public Library. Two public information meetings were also held to give commenters the opportunity to ask project questions. It is not clear what additional information that the commenter is referring to.

**Comment 147:***Commenter requested that DEC revoke its negative declaration due to the major effect on the chemistry of the emissions from to plant. (Depew)*

**Response:** Comment noted. As part of the SEQR process, DEC took a hard look at environmental issues of concern and did not find any substantial or significant issues. For air emissions and air quality Lafarge conducted an assessment based on the Air Guide 1 values and results indicated that the use of TDF would result in emissions that were less than 10% of the guideline concentrations. DEC also conducted a ISCLT2 analysis that predicted even lower ambient concentrations, at approximately 1% of the guideline limits. In addition as noted in the response to comment 1, data from other cement plants using TDF were reviewed, including those using whole tires. Health risk assessments were reviewed and indicated there were no significant public health risk from the use of TDF. Also see response to comment 12.

## Traffic Comments

**Comment 148:***Increase in truck traffic on Route 9W is a concern. I see no documentation in the application to support the truck numbers. The numbers are confusing especially when compared to the Saint Lawrence Cement project. In a worst case scenario if they couldn't use barges they would have 265 round trips a day. It raises the question that they have overstated the level of the existing truck traffic and thus, diminished the percentage increase associated with bringing in the tires. (Deyo, Baker, Travers, Greene, Williams, Graper)*

**Response:** The data for traffic were obtained through a traffic study conducted in June, 2003 by Barton and Loguidice P.C. Consulting Engineers and the final report was issued October, 2003. Traffic counts were collected in five separate locations including: (i) Route 9W north of the Lafarge site, (ii) Route 9W south of the Lafarge site, (iii) the south entrance of the property from Route 9W, (iv) the north entrance to the property from Route 9W, and (v) a counter placed on the north entrance east of the Callanan access drive to differentiate between Lafarge and Callanan Traffic. Truck traffic is expected to only

increase from 12-20 vehicles, less than 1% of the existing traffic. (See the Full Environmental Assessment Form, p. 10).

## Community Comments

**Comment 149:***Lafarge has been a good neighbor and responsible manufacturer. (Howlinger, Clouse)*

**Response:** Comment noted.

**Comment 150:***I am writing to support Lafarge Building Materials for their contributions in the forms of resources, people, time and money to the RCS School District. Lafarge has been open and responsive to a variety of venues to help our district and our students. The company and its employees have been a great corporate neighbor and sponsor. Lafarge has been a tremendous asset to our community and district, and we look to many more years of collaboration. (Wright)*

**Response:** Comment noted.

**Comment 151:***My comments are also made in reference to the Mayor of Ravenna, John Bruno. The Ravenna Plant has been a mainstay in the area and community and provided jobs and contributed to the tax base of the community. When there are issues we have worked together cooperatively and been able to resolve most of them. The Citizen Liaison Committee meets several times a year to share information with the company. Lafarge is committed to being a good neighbor by supporting community days and open house events. The company has kept the community informed about their application. (Hotaling)*

**Response:** Comment noted.

**Comment 152:***I participate on the Town of Coeymans planning meeting working with the Laberge Group on urban planning. No one has said they would like a tire burning facility in this community. (Marshall)*

**Response:** Comment noted.

**Comment 153:***Lafarge has been a member of our community since 2001 and since that time has demonstrated a continually growing role as a part of this community. When a need arises, Lafarge is already to assist in any way possible. The company has been proactively informing the community and more than willing to provide information. I am confident that the company will satisfy all regulatory aspects of their application to use TDF. Lafarge*

*remains a significant employer in our community, in addition to the considerable financial impacts resulting from the use of local vendors whenever possible. I have seen great strides over years of maintaining and updating the precipitators and dust collection systems to the highest standards possible. TDF makes sense. They will be able to dispose of tires in a manner that is environmentally sound and provide an alternative source of fuel which is efficient and will be readily available. (Tracey)*

**Response:** Comment noted.

**Comment 154:***The plan for Ravena by Lafarge is consistent with SLC in Greenport, and, inconsistent with the desire on the part of people who wish to retain the beauty of the Hudson Valley without poisoning the air and water. (Arkin).*

**Response:** Comment noted. Also see response to comment 1.

**Comment 155:***I find an issue that the Town Supervisor from Coeymans and some other public officials really think Lafarge has been a good neighbor. Of course they pay taxes and support the tax base and support all sorts of community activities. But they don't do anything for Columbia County and will be doing something against us. (Collins)*

**Response:** Comment noted.

### **Other Lafarge Plant Comments**

**Comment 156:***I represent Lafarge's Whitehall Plant in the State Senate (of Pennsylvania). Lafarge's Whitehall Plant has an outstanding environmental record. They have been very successfully using waste tires as part of their fuel mix for over ten years. Using waste tires as part of their fuel mix has reduced the number of tires cluttering the Commonwealth's landfills and this alternative fuel source has helped to lessen our reliance on fossil fuels. It has been a win-win for the community and State. I have also been very impressed with Lafarge's plant management and their concern for the environment. Allowing waste tires to be used as part of the fuel mix at Lafarge's Whitehall Plant has been a good decision for Pennsylvania. (Boscola)*

**Response:** Comment noted.

**Comment 157:***I have had the great fortune of representing the community of Whitehall Township for over ten years in the Pennsylvania State House. During that time, I have worked closely with Lafarge's cement plant in*

*Whitehall. Lafarge is a company located in a small village and has had the support of the community. This process is a win-win situation because it helps clean up a number of old tire piles and is used as a part of their mix for alternative fuel. Lafarge is a quality organization, committed to the environment and using technology to find renewable fuel sources. (Harhart)*

**Response:** Comment noted.

**Comment 158:***As a member of Congress and former member of the Pennsylvania State House and Senate I have been actively involved in national and local environmental issues. The Whitehall Plant's experience of using waste tires has been a great success. Lafarge has taken used tires that are usually destined to fill up landfills and used them to recover their full heat value as part of manufacturing cement. Recycling allows the Plant to use less fossil fuel. Safely recovering the heat value of used products, like tires, should be an important part of our county's environmental policy (Dent)*

**Response:** Comment noted.

**Comment 159:***I have seen the positive benefits of extracting energy from waste tires at the Lafarge plant in Catoosa, Oklahoma and I would certainly recommend approving a plan to allow it in other areas of the country. Tire dumps are eliminated and the need for traditional sources of energy is reduced. We are very happy with the results. Lafarge is a tremendous corporate citizen committed to community development and improving the quality of life in and around Catoosa. I know you will be pleased with all of the positive benefits burning waste tires will bring to your area. You can count on Lafarge to do the right thing. (Smaligo)*

**Response:** Comment noted.

**Comment 160:***I am a member of the Whitehall Environmental Advisory Council with their Whitehall Plant. Lafarge has been burning tires for approximately ten years and to my knowledge there have been very little environmental problems to date. The important things accomplished are saving on fuel and helping the environment by using old tires which are hard to dispose of. I give Lafarge an excellent rating for the environment and concern for the residents of Whitehall Township. (Spaandetti)*

**Response:** Comment noted.

## **TDF Usage and Alternative Comments**

**Comment 161:***There are better alternatives for tires such as recycling or reuse. DEC is feeling pressure to get rid of waste tires because of the possibility of real fires and West Nile Virus. One commenter cited An Ohio Department*

*of Natural Resources article on “Recycling Tires Scrap Tires as Fuel” dated August 9, 2005 notes that use of tires as fuel (in 2000 47% of 273 million generated were used as fuels), is not the best alternative. The DOT has permitted in the next two years to use half of the scrap tires in major stockpiles in New York State. The Scrap Tire Management Council and Act place energy recovery low on the hierarchy of alternatives as the least desirable option. (Winner, Cummings, Marshall, Ellis, Lawrence, Perry, Lick, Westwind, Phillips, Falzon, Wistar, Brownell, Spivy, Colfels, Edwards, Schiafo, Berger, Spilman, Travers, Greene, Adcock, Sebren, Mulderry, Davidson, Nyland, Graper, McLeod, Sherman, Kassel, Adelman, Rubin, Fry, Angelis, Osterink, Martin, Ross, Zaranko, McGrath, Kabat, Monkash, Cegielski, Hillman)*

**Response:** TDF is one alternative for managing waste tires. The Waste Tire Management and Recycling Act (Title 9 §27-1901) recognizes the use of energy from waste tires as one of the five waste tire management priorities. Currently other markets, including civil engineering applications are not sufficient to handle the over 29 million waste tires in stock piles and the over 19 million tires generated per year in New York. The Act does include funds to be used by the Department of Economic Development to conduct an updated market analysis of outlets for waste tire utilization including recycling and energy recovery opportunities to help to address the shortage of markets for tires. TDF has been permitted at six facilities previously in New York, including two cement plants. In addition TDF is used in over 40 cement plants, including at 65 kilns consuming over 53 million tires in 2003 alone. TDF is a recognized and commonly used alternative for waste tires that accounts for over 45% of scrap tire usage nationwide.

**Comment 162:***The vehicle registration fee does not allow Empire State Development funds to be used for incinerators or energy recovery. (Schiafo)*

**Response:** Comment noted.

**Comment 163:***There is no guarantee that any of the tires Lafarge proposes to burn will even originate in New York. 4.8 million tires would not come near to solving the scrap tire management problem. NYS has over 30 million stockpiled tires now that will not likely be used by Lafarge. (Wistar, Brownell, Davidson, Nyland, Rubin, McMaster)*

**Response:** The TDF application notes that tires will come from a 200 mile radius (see Beneficial use determination Section 4). It also states that Lafarge is interested in using tires from stockpiles.

**Comment 164:***Correct me if I am wrong but isn't this request to burn whole tires a practice that is not proven to be environmentally beneficial? (Doyle)*

**Response:** There are some expected emission decreases and other benefits associated with the use of TDF, including NOx emission reductions and scrap tire disposal (Title V air permit modification application page 4). Also see response to comment 161.

**Comment 165:***Over the last 10-12 years most of New York tires have left New York and gone to TDF in Connecticut and Maine or been stockpiled. DOT applications have not been as useful as they hoped and the tires are not being cleaned up as quickly lending itself to potential fire and mosquito hazards. Many states spend a lot of money to promote other markets, but they still keep coming back to TDF as tires are generated every day and there has to be an everyday use. It is used all over the world safely and happily. (Evans)*

**Response:** Comment noted.

**Comment 166:***Commenter supports project since it would use the cleanest technology available, rid us of tires and provide energy. (Goold)*

**Response:** Comment noted.

**Comment 167:***New York Tire Dealers support the project. Energy and material recovery in cement production has been proven throughout the world. The EPA reports that air emissions are the same or better than before using scrap tires. There is also concern regarding the security of environmentally friendly acceptable disposal of customers' scrap tires. Need an everyday, practical disposal/recovery option. Currently a majority of New York tires are sent for TDF to Connecticut or Maine, wasting fuel and energy to send them those distances. Ravena Plant would provide huge savings to the environment and the customer. (Caramanicao)*

**Response:** Comment noted.

**Comment 168:***Lafarge proposes only to use newly disposed tires, not those currently endangering the environment, including a large number from outside New York. This will not significantly ameliorate the current tire disposal situation, so consider on health grounds alone. It appears that the preference of Lafarge is to take scrap tires from the waste stream that are more likely to be reused or recycled and competing with more desirable methods, as they say New York will have to make funds available for tire pile remediation before they are interested. New York State law does not provide funding to market tires for energy recovery. (Rubel, Schiafo)*

**Response:** See responses to questions 161 and 163.

**Comment 169:***The Rubber Manufacturers Association supports the project. The use of scrap tire derived fuel is an accepted practice in the cement industry in the United States, as well as around the world. As of 2003 TDF was used in 43 locations in 65 kilns in the United States consuming 53 million tires. TDF is also used in France, Brazil, Canada, Japan, Mexico, the United Kingdom, Sweden, Switzerland, Germany, Spain and Portugal. Tires are an excellent source of energy, containing a 25% greater heating value than coal. Scrap tires are a replacement for iron ore in the cement making process, saving natural resources. TDF has been proven to lower NOx emissions. EPA supports TDF. TDF is one of several viable alternatives to prevent newly generated scrap tires from inappropriate disposal in tire piles and for reducing or eliminating existing stock piles. One of the common misperceptions is that the use of TDF will disallow any other market for scrap tires to be developed. The opposite is true, where/when TDF is not used/allowed, other markets for scrap tires are generally not well established. A biennial review of scrap tire markets can be found at [www.rma.org/scrap](http://www.rma.org/scrap) tires. New York generates 20 million scrap tires a year and has 40-50 million in stockpiles, New York needs as many diverse markets as possible for scrap tires as there is no one market that can consume all the tires. There are limited markets for stockpiled tires. (M. Blumenthal)*

**Response:** Comment noted.

**Comment 170:***The process has been approved five times in New York and EPA has endorsed use of this providing requirements of tire storage and securing a permit are met. There are over 40 cement plants using TDF. As no two are alike it is necessary to review each on its merits. We rely on DEC's professional review and judgment. If approved, I urge DEC to monitor its implementation to assure compliance. If the project results in a significant reduction in the use of fossil fuels, the reduction of scrap tires and assists Lafarge in remaining competitive, then the process will have been worth it. (Hotaling)*

**Response:** Comment noted.

**Comment 171:***The generation of waste tires requires everyday solution. Globally the best practice everyday solution is tire-derived fuel used in most, if not all, countries with a cement production industry without a negative impact on the environment. It is reported in many facilities that toxic air emissions are lower due to TDF. TDF needs to be part of every region's solution to waste tire recycling if landfilling and stockpiling is to be avoided. A short study on TDF in selected world markets was attached to the comment. (Evans)*

**Response:** Comment noted.

**Comment 172:***The United States Business Council for Sustainable Development is a non-profit association of businesses whose purpose is to create and deliver value driven sustainable development projects in the United States. The use of scrap tires as an alternative fuel aligns with the By-Product Synergy platform and with the objectives of our organization. By converting a portion of the stream of 19 million scrap tires produced each year in New York State into energy, the Ravenna plant will be capable of reducing coal use and related emissions by up to 20%. Lafarge uses TDF as part of its fuel stream in eight other plants in North America including one in Kansas City that is participating in a By-Product Synergy project co-sponsored by the EPA Region 7, City of Kansas and the State of Missouri. We strongly endorse By-Product Synergy and support Lafarge's experience using TDF as a sustainable approach to cement production. (Mangan)*

**Response:** Comment noted.

**Comment 173:***Lafarge North America is committed to three core operating values, safety, environment and quality. TDF is not a new practice and has been used for over 30 years around the world and is permitted in over 40 cement plants in 22 states around the country. In New York TDF has been permitted at six facilities, including two other cement plants. In 2003 53 million tires were consumed as tire derived fuel in cement kilns. Globally tires are used worldwide. Lafarge supports all alternative uses, TDF is one. Roughly 45% of all scrap tires generated in the United States end up as TDF. EPA issued a policy statement earlier this year supporting TDF in kilns. New York adopted the Waste Tire and Recycling Act which recognized recapturing of fuel value from scrap tires as an option. (Vahue)*

**Response:** Comment noted.

**Comment 174:***As a multiple location tire dealer in upstate New York I support the project. The state tire tax burdened tire dealers across the state with costs that are becoming more difficult to absorb and retaining 25 cents of the \$2.50 does not begin to cover actual hard costs. Cement kiln tire derived fuel plants across the country has proven great success. It eliminates scrap tire pilings, efficiently creates energy and reduces our expense to properly dispose of a growing concern to a clean environment. (Payne)*

**Response:** Comment noted.

**Comment 175:***The New York State Association of Service Stations & Repair Shops and its 3,500 members and five affiliates- is in favor of any environmentally sound practice which will dispose of waste tires and support this application. We are confident that a thorough and complete review of the application by*

*DEC has addressed any/all concerns from the perspective of protecting the environment. Landfills are full and environmentally unsafe and with the potential for fires causing significant environmental problems. After 40 years of experience the only feasible way to dispose of used tires is through burning and cement kilns provide an ideal mechanism to do this safely and in an environmentally sensitive manner. The State and federal government have tried to find ways to recycle used tires, we believe burning it as fuel and energy is the most likely and cost effective way to deal with this solid waste problem. The “not in my back yard” will be the rallying cry, however, hospitals, jails, halfway houses and other “less desirable” activities are part of our everyday life, and are needed, and they have to be in someone’s backyard. (Bombardiere)*

**Response:** Comment noted.

**Comment 176:***I think France uses a lot of tires in roadways as they are better and quieter and safer when it rains. So we should use it in United States and New York for the same purpose. (Arenysen)*

**Response:** Comment noted. Also see response to comment 161.

**Comment 177:***TDF has been permitted since the early 1990’s through the present time at six facilities in New York. In addition there are more than 40 portland cement facilities with approximately 65 kilns in the US already permitted to utilize TDF, that’s nearly half the cement plants in the United States that are currently permitted to use TDF. There’s no question that TDF usage in a cement kiln provides an overall benefit to the environment. There are more scrap tires generated than there are beneficial uses when TDF is excluded. TDF reduces a burden on society and reduces the dependence on fossil fuel. Coupled with the safe applications of TDF in cement kilns throughout the United States, it is undoubtedly a good solution. (Remsberg)*

**Response:** Comment noted.

**Comment 178:***I bought a burnt out shell of a house and have been sort of trying to rebuild it. People dumped a lot of asphalt shingles. About 95% of our houses in New York use asphalt. If you take off an asphalt roof a new one is half the weight. Where do the shingles go – my soil is probably somewhat contaminated. I used tire derived roofing. It’s 100% recycled and lasts forever and has a 50-75 year warranty. There are a lot of other things we can do with tires. (Downs)*

**Response:** Comment noted. Also see response to comment 161.

## **Economic Comments**

**Comment 179:***Will Lafarge receive any grant money for recycling tires? (Marshall)*

**Response:** The application does not propose receipt of grant money for recycling. Page 8 of the beneficial use determination application states that Lafarge would be interested in using stock piled tires once funding is available for specific tire remediation projects. Currently the Department is working with the Department of Transportation for the remediation of stock piled tires and use in civil engineering applications as described in the Waste Tire Stockpile Abatement Plan.

**Comment 180:***This is just for profit, not protecting the environment. It is bottom line capitalism. Lafarge is looking for free fuel. (Cummings, Pratt)*

**Response:** Comment noted.

**Comment 181:***The United Steelworkers Local 4-429 supports the project. Jobs are*

*moving offshore and the country needs a strong industrial base. It reduces the scrap tire problem. This move will be one step in the direction of keeping a 42 year old plant running, providing good jobs, and paying a huge portion of local and state taxes that would otherwise have to be made up by you and me. (Dunbar)*

**Response:** Comment noted.

## **Development and Property Value Comments**

**Comment 182:***Tire burning will reduce real estate sales, and result in lower commissions, mortgages, nest eggs, and taxable value in the Hudson Valley. (Valdina)*

**Response:** The Department does not expect adverse impacts on public health and the environment as a result of the use of tires as a fuel supplement to coal and coke at the Ravenna facility (See Comments 1 and 9). Therefore, a causal connection between the utilization of TDF at the Ravenna facility and the reduction of property values due to adverse public health and environmental impacts is not substantiated. Nor does the Department have the explicit authority to make permit decisions on the basis of impacts to property values and real estate sales.

**Comment 183:***The community loves the river. Artist friends and others will think twice before moving to Schodack Landing if the project is approved. Neighbors are thrilled to have an artist neighbor since they raise property values and the project could affect this. (Ross)*

**Response:** See response to comment 182.

**Comment 184:***The project would pollute the air and landscape and be a drag on the wider and more beneficial, less harmful development occurring and that will continue to occur along the Hudson River. It would affect the tourism and agricultural business base. (Franklin, Segal, Whelton, Vincent)*

**Response:** See response to comment 182.

### **Odor Comments**

**Comment 185:***We are concerned about children playing outside at the school. There has been no discussion of any smell emanating from the burning of tires. One commenter noted living near a factory which made combs of old rubber tires which had a strong smell that blanketed the town. (Marshall, Smith)*

**Response:** There is no odor expected from the use of TDF.

**Comment 186:***I have worked in numerous tires plants that use waste tires as fuel, also in retreading facilities, and tire production facilities. A retreading or new tire plant is really odorous, though I've never sensed an odor in all the years I've worked with TDF uses. Basically it's a nature of the temperature used to burn the tires. (Evans)*

**Response:** Comment noted.

### **Historic Properties Comments**

**Comment 187:***The project was reviewed in accordance with the New York State Parks, Recreation and Historic Preservation Law, Section 14.09. OPRHP's opinion is that the project will have no impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places. (Pierpont)*

**Response:** Comment noted.

### **Petition and Form Postcard Comments**

**Comment 188:***Form postcards were submitted by several commenters noting concerns with (i) air emissions including dioxins and furans, (ii) use of whole tires, (iii) compliance problems and (iv) use of tires from outside New York and (v) better alternatives. (Saul, Sklansky, Smith, Root, Pratt, E. Gershberg, J. Gershberg, Cashen, Ploeger, Gershberg, Smith, Swedenburg, Deyo, Brown, Drummond, Stonich, Ross, N. Gerli, A. Gerli, C. Gerli, A. Sukup, J. Sukup,*

*Bellinger, Hanani, Davino, K.Cohen, Reed, S. Cohen, Giblette, Stern, O'Shaughnessy, Schoenfeld, Keil, Matson)*

**Response:** See responses to comments 1, 4, 8, 9, 11, 80, 161 and 163.

**Comment 189:***Online petition submitted by Friends of Hudson calls on public officials to (I) fully address the serious longstanding compliance problems at the Ravena plant, which State regulators have failed to act upon, before moving forward with any consideration of tire-burning, ( ii) questions the use of whole tires rather than shredded,( iii) no trial burn, (iv) better alternatives, (5) extend the comment period by at least 90 days. (Falzon)*

**Response:** See response to comments 9, 80, 142 and 200.

**Comment 190:***Paper petition submitted by Friends of Hudson noting (I) concern with the project on the health of downwind residents, (ii) compliance history, (iii) better alternatives and (iv) requesting a suspension of the review of the proposal pending more investigation of existing problems at the facility. (Falzon)*

**Response:** See responses to comments 1, 9, 80, and 161.

### **Interested Parties and Information Requests**

**Comment 191:***People have requested information and to be listed as an interested party. Some commenters noted that information was not received. (Ellis, Pratt, Richardson, Dunham, Downs, Hendricks, Louis, Pickett, Henrickson, DeGroodt, McGivney, Guarino)*

**Response:** Commenters have been added as interested parties.

**Comment 192:***I am from a community well aware of the lack of formal notification by DEC regarding cement plant permit requests – they didn't notify us when Glens Falls Lehigh Cement requested permission to operate its slag cement all day and every day and Germantown was not notified. (Soul)*

**Response:** Notices of completion were published in the Environmental Notice Bulletin on July 20, July 27 and August 24, 2005 and the Times Union on July 22 and August 27, 2005. Two public meetings were held on August 4 and September 14, 2005. Two legislative public hearings were held on August 25 and September 21, 2005. In addition the application and draft permit were available for review at the DEC's Region 4 office in Schenectady, the Ravena Coeymans Selkirk Community Library, and the Castleton Public Library. The public comment period was extended until October 3, 2005 to

also provide further opportunity for public review and comment regarding the application. In addition, Friends of Hudson had access to all pre-application documents that were sent to the Town of Coeymans and Village of Ravena. The Department also provided this information to other towns and villages upon request.

**Comment 193:***DEC has failed to provide us with important relevant information contained in Lafarge's application including Volume II. (Baker)*

**Response:** The application and information requested has been provided to the commenter.

**Comment 194:***General request for copy of the application and draft permit. (Bertram, Sagady, Sullivan)*

**Response:** Information has been provided to the commenters.

**Comment 195:***Request for a summary of air dispersion modeling and a copy of the NSR/Title V permit for the facility. (Catalano)*

**Response:** Information has been provided to the commenters.

**Comment 196:***Copy of letter to Jeffrey Baker (representing Friends of Hudson) for a copy of the engineering firm reviews of the draft permit and application and relevant scientific and technical literature. (Fein)*

**Response:** Comment noted.

**Comment 197:***Submittal of the Lafarge TDF presentation used at the public information meeting and fact sheet distributed at a legislative hearing. (Vahue)*

**Response:** Comment noted.

**Comment 198:***I am asking you forthwith to require the company to produce all the proper information about the impact of the tire burning. (Anderson-Spivy).*

**Response:** The application and supporting data are available at the DEC's Region 4 Office, the Ravena Coeymans Selkirk Community Library, and the Castleton Public Library. Two public information meetings were also held to give commenters the opportunity to ask project questions. It is not clear what additional information that the commenter is referring to.

## Noise Comments

**Comment 199:***A noise complaint was made to DEC 1 ½ years ago and no reply was received from DEC. A copy of a March 30, 2004 letter to DEC was attached. (Wicks)*

**Response:** Comment noted. Lafarge conducted noise testing and found the ambient noise levels to be below regulatory thresholds. In an effort to address this specific complaint Lafarge installed a noise dampening system onto one kiln drive housing. Subsequent testing noted a 40% reduction in detectable noise. Lafarge has offered to take additional noise sampling in a continuing effort to be proactive with respect to any complaints which have been registered.

### Public Comment Period Comments

**Comment 200:***The public comment period should be extended. Commenters requested general extensions and specifically from 30 days, until December 1<sup>st</sup>, the end of December, 60 days, 90 days, 120 days, and until the 1<sup>st</sup> of next year. (Ellis, Rubin, Croft, Pratt, Hendricks, Ross, Schiafo, Lawrence, Bertram, Winner, Baker, Deyo, Henrickson, Dunham, Reznikoff, DeGroot, McGivney, Sullivan, Baker, Marks, Collins, Donahue, Grunberg, Lewis, Hummel, Travers, Blechman, Adcock, Hummel, Sebren, Spivy, Buckner, Davidson, Sklansky, Falzon, Locke, Donald, Davis, DeGroot, Gordon, Shimkin, Bergen, Clark, Manning, Donovan, Shulman, Valdina, Kraham, Byrd, Knoll, Everingham, Davey, Kavanaugh, Arkin, Parsons, Huston, Croke, Greer, S. Evans, Cooney, Hauptmann, Williams, Hellerman, Hopper, Vosburgh, Foley, McMaster, Motto, Secor, Richardson, Bauer-Mayorga, Powell, Dunham, Osterink, Young, Guarino, Greenfield, Reynes, Bennett-Calkins, Calkins, Hargis, Potrzeba, McGrath, Kabat, Monkash, Cegielski, DeCaprio, illegible name)*

**Response:** The public comment period was extended until October 3, 2005. For permit applications submitted under the Uniform Procedures Act the Department is required to make timely decisions.

**Comment 201:***It's been brought to my attention that there will be no hearings or other open discussion regarding the Lafarge tire burning plan. This is highly suspect behavior on the part of the DEC in my opinion and utterly unacceptable. (Pillai)*

**Response:** Two public information meetings were held on August 4 and September 14, 2005. In addition two legislative public hearings were held on August 25 and September 21, 2005. The public comment period was also extended to afford the opportunity for additional review and comment.

**Comment 202:***It is also my understanding that a draft permit was issued without any input from the citizens of Columbia County. (Malina)*

**Response:** See response to comment 201. Input has been received from residents of Columbia County both at the two public information meetings and two legislative public hearings and during the public comment period.

**Comment 203:***Lafarge initially submitted its application to use TDF on November 13, 2003. During the two year period, Lafarge operational and technical personnel and the Company's consultants sought to respond to each question raised by DEC. Prior to Lafarge's application at least six other facilities in New York State were approved by the DEC to use TDF and in each there were neither public information sessions or legislative hearings required, and in only one instance, we believe, was there even a public comment period (and this period was only 45 days). We acquiesced to two public hearings and two legislative sessions and a public comment period of approximately 70 days. We believe, that any further extension of time is not warranted. (Reagan)*

**Response:** Comment noted.

**Comment 204:***The public comment period is only a formality in Saint Lawrence Cement and DEC expected it to get approved and acted like a cheerleader. DEC has a giant blind spot to the cement industry in the valley. The industry needs to move into the 21<sup>st</sup> century with truly state of the art technology. (Pratt)*

**Response:** Comment noted.

**Comment 205:***DEC should notify all the towns between here and the Atlantic coast. (Spilman)*

**Response:** Comment noted. Also see response to comment 201.

**Comment 206:***The applicant should be required to make the modification application in public libraries in Connecticut. ®. Blumenthal)*

**Response:** Comment noted.

**Comment 207:***There should be a more open and transparent process. (Schiafo)*

**Response:** Comment noted. Also see response to comment 201.

## Hearing and Meeting Comments

**Comment 208:***There should be an additional legislative public hearing scheduled or the August hearing should be moved back. (Baker, Hendricks, Henrickson).*

**Response:** A second legislative public hearing was held September 21, 2005.

**Comment 209:***There should be several public hearings. (Reznikoff)*

**Response:** See response to comment 201.

**Comment 210:***There should be public meetings in Columbia, Rensselaer, Dutchess, downwind and other eastern counties. (Depew, Jamison, Donahue, Ellis, Kuenster, Grunberg, Ross, Schafer, Hummel, Docktor, Greene, Adcock, Hummel, Sebren, Spivy, Hillman, Reed, Erickson, Murdock, Futterman, Buckner, Rieser, Thurston, Gordon, Swedenburg, Davidson, Hegeman, Williams, Durfee, C. Flood, K. Flood, Sklansky, Falzon, Dunham, Locke, Pickett, Locricchio, DeGroot, Kwacz, Sweningsen, Evans, Jamison, Anderson-Spivy, McGivney, Grunberg, Shimkin, Bowers, Von Pein, Bergen, Clark, Manning, Donovan, Davis, Valdina, Kraham, Blackburn, Byrd, Knoll, Everingham, Marks, Kavanaugh, Pagnani, Arkin, Morris, Huston, Gardner, Noyes, Croke, S. Evans, Cooney, Hauptmann, Williams, Hellerman, McMaster, Secor, Richardson, Hegeman, Powell, Dunham, Caluneo, Osterink, Lutey, Martin, Lebar, Whelton, Young, Guarino, Collins, Greenfield, Reynes, Bennett, Calkins, Hargis, Potrzeba, McGrath, Kabat, Litteken, Cegielski)*

**Response:** The Department looked for the best and most centralized locations for the meetings and hearings. Coeymans provided this location and the Castleton Thruway Bridge provided a good interconnection for people from the east side of the river to attend.

**Comment 211:***DEC is invited to attend the Kinderhook and Chatham Town Board meetings. (DeGroot, McGivney)*

**Response:** The Department did attend meetings at the request of the towns identified.

**Comments 212:***I would echo the concerns about what seem to be deficiencies in the application process related to this project. (Spivy)*

**Response:** Comment noted.

## **SEQR Comments**

**Comment 213:***The negative declaration should be rescinded, a positive declaration*

*issued, and an environmental impact statement required. (Ellis, Greenberg, Rubin, Depew, Pratt, Schiafo, Blackman, Lawrence, Spilman, Baker, Falzon, Collins, Donahue, Grunberg, Schafer, Travers, Downs, Birckmayer, Docktor, Greene, Jung, Spivy, Hillman, Futterman, Thurston, Gordon, Swedenburg, Hegeman, Dunham, Graper, Locricchio, Guthridge, Sweningsen, Kwacz, Jamison, Anderson-Spivy, Grunberg, Shimkin, Bowers, Blackburn, Paden, Baksa, Knoll, Gardner, Richardson, Hegeman, Powell, Reynes, Kabat, Litteken, Cegielski)*

**Response:** Comment noted. As part of the SEQR process, DEC took a hard look at environmental issues of concern and did not find any substantial or significant issues that would trigger a decision for a positive declaration under the SEQR process. For air emissions and air quality Lafarge conducted an assessment based on the Air Guide 1 values and results indicated that the use of TDF would result in emissions that were less than 10% of the guideline concentrations. DEC also conducted a ISCLT2 analysis that predicted even lower ambient concentrations, at approximately 1% of the guideline limits. In addition as noted in the response to comments 1, 4, 5, and 9, data from other cement plants using TDF were reviewed, including those using whole tires. In addition, other health risk assessments conducted by state and federal agencies about the risk posed by the use of TDF in Portland Cement Kilns were reviewed. The results indicated there was no significant public health risk from the use of TDF as a supplemental fuel at given percentages.<sup>(7, 8)</sup>

The Department acknowledges that the above mentioned facilities and processes are different than the Lafarge Ravenna facility and therefore, are not completely applicable, but the data do support the overall weight of evidence that tires may be utilized successfully in properly operated and controlled cement kilns.

The Department also acknowledges concerns about existing mercury emissions in the response to comment 11 and will be addressing this issue using state regulatory authority during the Title V permit renewal period.

**Comment 214:***There are inconsistencies in the data and application information and that DEC used in the negative declaration: (I) the number of tires – neg dec says 4.8 million tires per year, BUD Item 4 pg. 9 regarding storage states that the Plant will require approx. 100,000 tons per year (approx. 10 million tires). Three to 4 days worth will be kept in inventory on-site. This is a maximum of 100 trailers of tires, approx. 100,000 tires; (ii) DEC states tires would substitute for up to 35,000 tons of coal and coke. If a 25 lb tire=25 lbs of coal, Lafarge should only use 2.8 million tires; (iii) DEC states tires would substitute for up to 20% on a BTU per ton of clinker produce. An EPA paper*

*states wet process cement kilns need between 5-7 million BTUs per ton of clinker produced. Lafarge produces nearly 2 million tons of clinker per year, therefore 20% of 5 million BTUs = 6.66 million tires or 20% of 7 million BTUs = 9.32 million tires; (iv) DEC states tires would be fed at a rate of 6 tires per rotation, Lafarge states the system design is 8 tires per kiln rotation, though 5-6 tires per rotation would be fed, 8,760 hours of operation. EPA states wet process kilns rotate 50-70 times per hour. So 50 x 6 tires x 8760 hours x 2 kilns = 5.256 million tires or using 70 = 7.358 million tires. Using 8 tires equals 7.008 or 9.81 million tires. (Birckmayer)*

**Response:** The value of 4.8 million tires per year is the correct usage number as cited in the application and negative declaration. (i) The commenter refers to the Beneficial Use Determination and storage rather than usage information. (ii) The calculations do not account for the fact that petroleum coke's heating value is higher than coal. (iii) Commenter has not provided the reference to the documentation cited or whether the difference in heat input is referencing wet versus dry kilns. Also not all tires will be passenger car tires of 20 lbs, truck tires are heavier and will greatly change the calculation assumptions. (iv) The comment combines data from three different sources, the theoretical maximum hours of operation without accounting for kiln downtime and the fact that tires will not be introduced during every hour of operation. The comment does not provide the reference for the kiln rotation number used in the calculation.

**Comment 215:***Friends of Hudson is opposed to issuing a permit for this project. It has not demonstrated that it can meet the appropriate legal standards in the regulations or under the SEQRA, and, at a minimum, if this project is going to go forward significant conditions have to be posed to ensure that the environment is protected, conditions that I doubt Lafarge is going to find unacceptable. (Falzon)*

**Response:** Comment noted. Standards for permit issuance have been met.

### **Adjudication Comments**

**Comment 216:***The project should have an issues conference and be adjudicated. (Pratt, Lewis, Futterman, Thurston, Blackburn)*

**Response:** Comment noted. No substantive and significant issues under 6NYCRR Part 621 Uniform Procedures have been raised. Also see response to comment 213.

**Comment 217:***FOH does not relish the prospect of resolving this dispute through the DEC's adjudicatory process. If DEC does not require more information from Lafarge before the process continues and make changes to the draft*

*permit to bring it into conformity with the applicable regulations and place operating restrictions on Lafarge to assure that any burning of TDF does not result in an increase in dioxin and furan production, then a referral to the Office of Hearings and Mediation Services is required for the convening of an Issues Conference and the commencement of the adjudicatory process. (Baker)*

**Response:** Comment noted. Also see responses to comments 1, 33, and 213.

## **Other Comments**

**Comment 218:***This is a controversial topic, the EPA is still trying to decide if they like it or not. A lot of leading scientists are not convinced that the practice is as clean as people and the defendants argue it is. (M. Winner)*

**Response:** Comment noted. In April 2005, EPA issued a position statement that “Based on over 15 years of experience with more than 80 individual facilities, EPA recognizes that the use of tire-derived fuels is a viable alternative to the use of fossil fuels. EPA testing shows that TDF has a higher BTU value than coal. The Agency supports the responsible use of tires in portland cement kilns and other industrial facilities, so long as the candidate facilities: (1) have a tire storage and handling plan, (2) have secured a permit for all applicable state and federal environmental programs; and (3) are in compliance with all the requirements of that permit.”

**Comment 219:***Where there is a question involved (regarding danger), there is no question when it comes to the health and safety of our community and our children. We have to safeguard the children in the school and community, they are our future. (Marshall)*

**Response:** Comment noted. Also see response to comment 1, 2, 4, and 49.

**Comment 220:***The Lafarge website says a lot about environmental sustainability and seems to take responsibility for protecting and maintaining the environment. Not only does Lafarge care about protecting the health and well being of the planet, they have the resources to do so. It has no need to imply that environmental improvements would require plant shutdowns or job losses. Lafarge admits its air emissions are higher than those of some of its competitors due to recent acquisitions in emerging countries. The United States is not an emerging country and New York is classified as part of the developing world. The Ravena Plant belongs to a different age – in 1962 there were few standards for pollution control, little known about cancer hot spots, a major polluter could be sited across from a school. In 1962 a plant like Ravena could be excused as didn't know better, nobody would build the*

*plant today. When will somebody clean it up? DEC can help Lafarge clean up its act. DEC should uphold our legal standards and help Lafarge live up to its lofty high principals. The agency will reaffirm its duty lies not in ensuring the profits of foreign corporations, but in protecting the health and welfare of the people of New York. (Teague)*

**Response:** Comment noted. Also see response to comments 1, 2, 4, 49 and 69.

**Comment 221:***In Washington DC in November Lafarge officials made a presentation to financial investors regarding a cost cutting measure to put them ahead of their competitors – it concerns alternative fuel sources for cement kilns. Lafarge plants in Davenport, Iowa, Michigan, Ohio use iron oil, sand, fly ash, sand and lime sludges. The Ohio Plant in January, 2000 paid a \$48,000 penalty to EPA because of its low emission particulates. Whitehall, PA uses scrap tires and plastic. Lafarge wants to start down the road to solid waste disposal. (Davis)*

**Response:** Comment noted. Also see response to comment 161.

**Comment 222:***We are running out of excuses for our past environmental excesses. In Nassau there is a site where there are 46,000 tons of PCBs and VOCs. At the time they didn't know, much like cigarette smoking. DEC permitted burning of the waste lagoon as remediation. The delay in the Hudson River PCB cleanup is frustrating. We look back and they didn't know. Now we know many low level pollutants are minimally offensive and damaging to fully developed adults are extremely debilitating to children. ECL Article 8, Section 0103.2 states that every citizen has a responsibility to contribute to the preservation and enhancement of the quality of the environment. (Hendricks)*

**Response:** Comment noted.

**Comment 223:***If you let one cement company do this, what will stop the other cement companies in the area to start asking permission to burn tires? (Overington, Sansbury, Schiafo)*

**Response:** Comment noted. Two other cement plants in New York State have been permitted to use TDF since the early 1990's, as well as four other industrial facilities.

**Comment 224:***If you haven't noticed, the French don't give a damn about our country. No troops in Iraq, no real help in catching terrorists, so to hell with them. Who is more important, us or them, yourself/family included? (Sansbury)*

**Response:** Comment noted.

**Comment 225:***Do they burn whole tires in France? (Jamison)*

**Response:** Yes, whole tires are used as TDF in France.

**Comment 226:***DEC has a conflict of interest as they have been asked to deal with our tire problem and they're going to get rid of these at the expense of citizenry and pose a health risk. (Collins, Donahue)*

**Response:** Comment noted. Also see response to comments 1, 2, 4, and 49.

**Comment 227:***Where do the owners of Lafarge and the paid consultants live? (Cul)*

**Response:** The Department does not have information regarding where Lafarge owners and consultants live.

**Comment 228:***I'm a Principle Consultant with Trinity Consultants. I currently reside near Frederick Maryland. It is the location of a portland cement plant which has safely burned whole tires since the early 1990s. (Remsberg)*

**Response:** Comment noted.

**Comment 229:***BASF should be cleaned up and DEC just covers it up. How can we have confidence that DEC is going to protect the public health and environment with the Lafarge project if DEC covers up three Superfund sites, especially one of them in the City of Rensselaer? (Ellis)*

**Response:** Comment noted. Also see response to comment 213.

**Comment 230:***People represented at the hearing can't go out and hire expensive experts to back up their arguments. Money buys your forum or your ability to get things done in your favor. People have lost faith in the institutions and people that are supposed to protect them – look at New Orleans. Nothing makes me want to trust DEC and Lafarge. (Kuenster)*

**Response:** Comment noted. Also see response to comment 213.

**Comment 231:***DEC has a number of tools at its disposal to inspire confidence in the ultimate decisions that are made. That is public hearings like tonight. DEC needs to consider empirical evidence that is submitted at the public hearing and during the public comment period. (Lewis)*

**Response:** Comment noted. Also see responses to comments 1 and 213.

**Comment 232:***If they want to save money in fuel savings, why don't they run their trucks on biodiesel – that's 20 percent savings? (Travers)*

**Response:** Comment noted.

**Comment 233:***I worry that Lafarge will do just enough redesign to pass the minimum criteria instead of doing everything it should to safeguard the area's people, land, air and real estate values. The dust at the Route 9 entrance is bad and more trucks can't help, not including the air emissions. (Feuerbach)*

**Response:** Comment noted. As part of the proposed permit, Lafarge will be required to update its fugitive dust control plan. Also see response to comments 1 and 62.

**Comment 234:***It is a mistake to allow industries that are heavy polluters to establish themselves in a community, because once they are established, they cannot be dislodged without considerable- hardship, pitting jobs against health. (Smith)*

**Response:** Comment noted.

**Comment 235:***Lafarge is greedy. This French company owns a subsidiary that sources whole tires from places like Sears and K-Mart. Do they get a tipping fee for taking them? (Spivy)*

**Response:** There will be a tipping fee that varies with the suppliers as dictated by the market.

**Comment 236:***I do not trust the idea of burning tires, tires are not meant to be burned as a fuel. There are over 100 TDF plants in the US, yet there is still a roaring debate about this practice. The 6 billion people on the planet are having to make the transition towards an awareness that what they do does affect their environment (e.g. Katrina, Rita, global warming). Can you imagine what would happen if cement plants decided to burn ALL tires to make up for a fossil fuel shortage? Life is beautiful even without the complicated industrial machinery we have created to entertain ourselves. (M. Winder)*

**Response:** Comment noted. Only a percentage of conventional fuels can be replaced with tires in order to produce a quality product.

**Comment 237:***Freedom of Information request for Susan Falzon to review the file of public comments on September 27. (Falzon)*

**Response:** Comment noted.

**Comment 238:***Here is what I have found out about TDF. Cement, pulp and paper and power plants are the biggest users of TDF. TDF can replace coal as long as it is handled properly, emission levels from an optimized TDF facility are potentially lower. Tires have to burn at very high temperatures, have plenty of oxygen and have long residences. As a rule cement plants and utilities run at high enough temperatures to deal with chemicals, but the level of emissions also depends on the design of the combustor and there is little data. EPA found except for zinc other emissions are not very different and installing a particulate control device controls zinc emissions. Mechanical breakdowns and human failure do occur. Tires contain a dozen or so chemical, some which are hazardous. There is little information on the effects of the high concentration of metal in tires. Some chemicals become ash. Coal doesn't have styrene and benzene and isn't as loaded with chemicals as man-made, tire-derived fuel. It's there and will be around for a long time, but there will come a day when we have other markets and it will go away. (McLeod)*

**Response:** Comment noted. Also see responses to comments 1, 4, 5, 9, 28, 37, 49, 59 and 161.

**Comments 239:***Comments against the project without other comments that are included elsewhere. (Best, Howard)*

**Response:** Comment noted.

**Comment 240:***Commenter encouraged that the alterations for tire derived fuel also accommodate the potential use of biomass fuels as the need to research and implement alternative fuels is imperative. Biomass applications may be viable fuel sources as well as sustainable agricultural and economic tools for the surrounding rural communities. The commenter encouraged DEC to create a wider review of energy sources as part of the currently proposed research. (Gordon)*

**Response:** Comment noted. Lafarge's application for the Ravenna Plant only proposes to use tire derived fuel "TDF" as an alternative fuel and is being reviewed for that purpose. DEC supports the use of biomass including through its Forest Products Utilization and Marketing Program to understand and promote New York forest research and industrial use of timber biomass as a raw material.

**Comment 241:***The commenter noted that the Wildlife Habitat Council ("WHC") had worked with the Ravenna Plant since Lafarge assumed control of the facility in 2001. The plant and company have worked cooperatively with the WHC*

*to create and maintain wildlife habitats, specifically a 150 acre area on company owned land with walking trails and interpretive markers. This demonstrates the dedication the company has to the community and the environment. We are confident that the company will continue to be a key member of the community as well as to continue to enhance their environmental stewardship efforts. (Howard)*

**Response:** Comment noted.

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- (11) U.S. Environmental Protection Agency. National Risk Management Research Laboratory. Control of Mercury Emissions from Coal-Fired Electric Utility Boilers: Interim Report. Appendix A- Summary of Part II EPA ICR Data: Mercury Content and Selected Fuel Properties of As-fired Coals and Supplemental Fuels Burned in Coal-fired Electric Utility Boilers Nationwide in 1999. (March 31, 2002).
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