Ravena Cement Plant Public Health Assessment
Information Sheet #2: *Phase One Summary (November 2010)*

This Information Sheet summarizes findings from phase one of the Ravena cement plant public health assessment. This health assessment is being completed in two phases (see diagram on back page) by the New York State Department of Health (NYS DOH) and the Agency for Toxic Substances and Disease Registry (ATSDR) to address community concerns about possible health effects from contaminants released from the Ravena cement plant. The goal of the health assessment is to evaluate whether chemicals from the cement plant might harm people's health.

The comprehensive phase one report *Health Consultation: Lafarge Cement Plant - Environmental Data, Exposure Pathway Evaluation and Health Data Summary (Public Comment Draft)* is available for public review and comment. See the contact section on the back page for more information.

What was done during phase one?

Contaminants in the environment can only harm health if they are present in media (such as air, water, soil, dust) **and** if people come in contact with the contaminants. In phase one, NYS DOH assessed whether contaminants from the cement plant are present in media that people might contact.

The NYS DOH compiled all the available information about contaminants (chemicals, airborne particulates) and dust released from the cement plant over its nearly 50 years of operation. Most of this information is from federal (US Environmental Protection Agency), state (New York State Department of Environmental Conservation) and local (Albany County Department of Health) agencies.

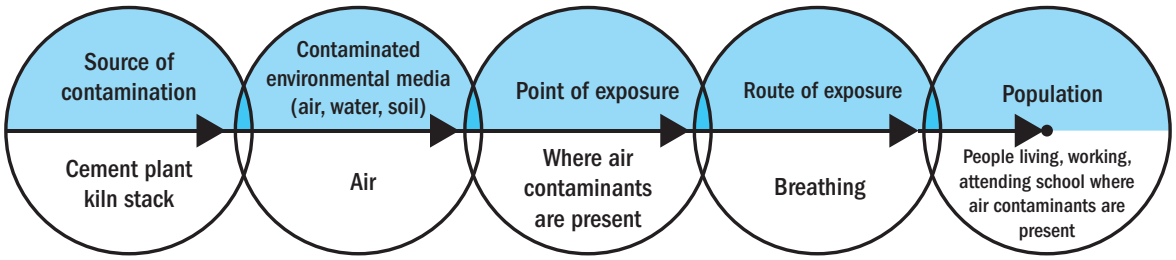
Based on this information, the NYS DOH explored how people might be exposed to contaminants or dust from the cement plant. The ways people can be exposed to contaminants are called exposure pathways. An exposure pathway has five parts. When all five parts are present, it is called a *completed exposure pathway*. If any of the five parts are unknown, the exposure pathway is called a *potential exposure pathway*. If any of the five parts are absent, the exposure pathway is eliminated from further consideration because people are unlikely to be exposed to those contaminants.

In phase one, NYS DOH also reviewed existing assessments of health risk for contaminants from the cement plant and summarized available health outcome data for people living within the five ZIP codes surrounding the cement plant.

What are the major findings from phase one?

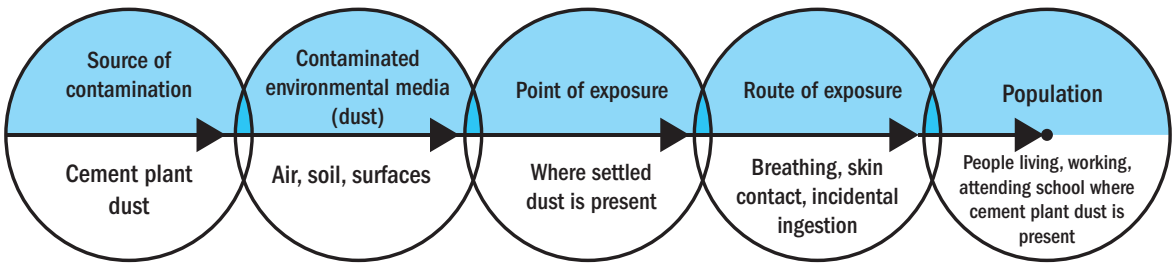
People in the surrounding community might be exposed to contaminants or dust through two exposure pathways. These are an air pathway and a settled dust pathway. Phase 2 will establish whether there actually has been community contact.

Air in the surrounding community may contain contaminants from the cement plant. People living, working or attending school nearby may be exposed by breathing the contaminants.



Exposure pathway for air near the Ravena cement plant

There may be dust from the cement plant in the area. People living, working or attending school nearby might have contact with settled cement plant dust through skin contact, incidental ingestion or by breathing it in.



Exposure pathway for settled dust near the Ravena cement plant

Exposure pathways were eliminated for the other environmental media examined, including public drinking water, groundwater, soil on cement plant property, surface water, sediment and fish. See table on right for more details.

Exposure pathway for:	Reasons for eliminating pathway	
	On cement plant property only	No evidence of contamination
Public drinking water		X
Groundwater	X	
Soil	X	
Surface water & sediment	X	X
Fish		X

Other available assessments of possible health risks have not indicated a significant health risk, although these assessments were limited. Health outcome rates for ZIP codes around the plant appear to be similar to rates across New York but these data do not rule out the occurrence or absence of increased outcomes for smaller geographic areas.

What will be done during phase two?

Potential exposure to multiple contaminants measured in air at the cement plant kiln stack will be evaluated in phase two. We will use an air dispersion model (a mathematical tool) to estimate maximum (worst-case) levels of air contaminants from the cement plant at ground level in the surrounding community. The air dispersion model was developed by air pollution scientists at the US EPA as a way to estimate air contaminant levels at ground level (where people are exposed) based on levels released at the stack. These estimated levels will be compared to levels that are protective of health (called health comparison values). If air levels of a contaminant approach or exceed health comparison values, the contaminant will be further evaluated to characterize health risk and to determine whether further studies or health actions are needed.

Possible exposures to settled dust in the community will be evaluated separately from air releases during phase two. If exposures to settled dust from the cement plant appear possible, NYS DOH will assess the risk for health effects and determine whether further studies or health actions are needed.

Community: Next Step

Interested community members are encouraged to review and provide comments, concerns or additional information on the phase one *Health Consultation* report to the NYS DOH during the public comment period ending February 15, 2011. Comments may be submitted electronically or in writing to the address below. NYS DOH responses to comments will be included in the final phase one report to be released after the end of the public comment period. The final phase one report will be used by NYS DOH and ATSDR as the basis for phase two of the health assessment.

NYS DOH contact for questions, comments or copies of the phase one *Health Consultation* report:

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