

Letter Health Consultation

NORTHWEST STATES PORTLAND CEMENT COMPANY SITE

MASON CITY, IOWA

EPA FACILITY ID: IAD980852431

JUNE 13, 2008

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Agency for Toxic Substances and Disease Registry

Division of Health Assessment and Consultation

Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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LETTER HEALTH CONSULTATION

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Prepared By:

Iowa Department of Public Health
Under Cooperative Agreement with the
U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry



Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

Thomas Newton, MPP, REHS
Director

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May 6, 2008

Diana Engeman, Project Manager
US Environmental Protection Agency, Region VII
901 North 5th Street
Kansas City, KS 66101

RE: Northwest States Portland Cement Company Site, Mason City, Iowa
EPA Third Five Year Review

Dear Ms. Engeman:

This letter has been prepared as a consultation to EPA regarding the third five year review of the Northwestern States Portland Cement Company Site, located North of Mason City, Iowa in Cerro Gordo County to provide an evaluation of the public health status of the site.

Background

In 1987, the EPA Region 7 conducted a site inspection of the Northwestern States Portland Cement Company Site (NWSPCC). Based upon the results of the site inspection, the NWSPCC site was proposed for the National Priorities List (Superfund List) in June 1988 and was added to the final NPL Listing in August 1990 (1).

In 1990 the Northwestern States Portland Cement Company completed a Remedial Investigation/Feasibility Study (RI/FS) under the enforcement oversight of the IDNR. In March 1990, the Proposed Plan identifying the preferred remedy was presented to the public, starting the period for public comment (1).

The Iowa Department of Public Health (IDPH) produced a Health Assessment for the NWSPCC site, which concluded that the Site was a potential health concern because of the potential risk to human health from possible exposure to hazardous substances at concentrations that may result in adverse health effects. The IDPH assessment determined that the chemicals of concern for potential human exposure were; chromium, lead, sodium, sulfate, phenols, and elevated pH via ingestion of groundwater from on site and off site private wells. Also, the Health Assessment determined that human exposure to elevated pH may have occurred in the past via dermal contact, ocular contact, and incidental ingestion of on site soil, sediment, surface water, and groundwater, and via inhalation of dust.

The Site achieved construction completion status when the Preliminary Close-out Report was signed on December 23, 1993. The EPA and the state determined that all RA construction activities were performed according to the specifications. The Final Close-out Report for the Site was signed on September 26, 1994, and the site was de-listed from the NPL on August 31, 1995 (1).

Reviews of the NWSPCC are conducted every five years per Superfund guidance. The protectiveness statement in the Second Five-Year Review Report was as follows: “The remedy at the Northwestern States Portland Cement Company site is protective of human health and the environment”

The Third (Current) Five-Year Review Process

Holcim Inc., the current site owner, was notified of the initiation of the five-year review on December 4, 2006. On March 7, 2007, a notice was placed in the Mason City Globe Gazette that a five year review was to be conducted and provided information on how to contact the EPA to provide input. A letter stating the same, as well as a history of the Site, was sent to elected officials, members of the media, and adjacent community members. The letter invited the recipients to submit any comments that they might have to the EPA. No comments were received.

The plan for site O&M is included in the Site Operations and Maintenance Manual. The results of groundwater monitoring and all other inspection and maintenance activities conducted during the year are reported annually in Remedial Action Annual Status Reports. As a part of the Third Five-Year Review, Remedial Action Annual Status Reports, submitted by GZA Environmental, Inc. on behalf of Holcim, Inc., were reviewed for 2002 through 2006. Contained in the Annual Status Reports were summaries of the annual groundwater monitoring results; the condition of the cap and maintenance activities associated with the cap and drainage system for the past year; the treatment system O&M for the year; and a list and schedule of activities planned for the upcoming year.

Throughout the period of time since the second five-year review, the condition of the West Quarry cap and drainage system continued to be very good with routine maintenance and minor repairs (1). The vegetation is well established and is maintained by annual fertilizing, weed control, mowing, and bailing. No areas of erosion have been identified during the past five years.

It was determined that one of the components of the drainage system, the sediment in the settling pond may have contributed to exceedances of the Total Suspended Solids (TSS) performance standard. To test this theory, the settling pond has been by-passed since 2002. There was an exceedance of the TSS performance standard in June 2003 due to the shut down of the treatment system to upgrade the pumping system in the retention pond. The retention pond had a floating pump with manual on/off controls which was replaced with a fixed vertical pump with automatic low-level and high-level switches, making operation much simpler. The settling pond was used once again in March 2004 during repair of the broken main discharge line from the treatment system. There was another one-day exceedance of the TSS performance standard during the use of the settling pond. The settling pond was not utilized during 2005 or 2006 and there were no TSS exceedances during that time. Holcim, Inc. decided to reconstruct the settling pond in late 2007. Planned improvements in the system should eliminate the problem with exceedances of the TSS performance standard. Although there were a few exceedances during the five year period of this review, an IDNR representative from the IDNR Field Office in Mason City, concluded that Holcim, Inc. was in substantial compliance with their NPDES permit for the discharge from the West Quarry treatment system.

The Restrictive Covenant for the Site remains in effect and prohibits the construction, installation, maintenance or use of any wells on the described property for the purpose of extracting water for human drinking purposes or for the irrigation of food or feed crops. The covenant, in conjunction with the other elements of the remedy prevents anyone from coming into contact or consuming contaminated groundwater emerging from the site.

Contaminants of Concern

The contaminants of concern at the site at the time it was listed on the NPL were the pH of the groundwater, and phenol, arsenic and heavy metal (lead, cadmium, chromium, and nickel) contamination of the groundwater. It was determined that exposure to groundwater through drinking water wells and through surface water from Calmus Creek presented significant human health risks associated with ingestion and dermal exposure pathways. The groundwater continues to have a high pH, along with phenol, arsenic and heavy metals contamination due to the CKD wastes that remain in the ground at the West Quarry.

Exposure Pathways

In the past, when the site was first listed on the NPL, there was a completed exposure pathway due to ingestion of contaminated groundwater and dermal contact with contaminated surface water from Calmus Creek. The implementation of the remedy, which was completed in December 1993, eliminated these exposure pathways. There are no current exposure pathways to contaminated groundwater or surface water and the Restrictive Covenant assures that there will be no future exposures to the contaminated groundwater or surface water.

Community Health Concerns

The community was given opportunity to comment on the site during the 5-year review process. No comments from the public or local community have been received as of the writing of this health consultation.

Conclusions

The current status of Northwestern States Portland Cement Company Superfund site has been reviewed to evaluate the long-term effectiveness of the remediation. The IDPH reviewed the site information and exposure pathways and concluded that the site poses **No Public Health Hazard** at the present time and is not expected to in the future as long as the integrity of the cap is maintained, the groundwater extraction and treatment system is maintained and exposure to site groundwater is restricted through the restrictive covenant.

Recommendations

- The EPA and Holcim, Inc. should maintain and enforce restricted site access and the existing restrictive covenant to protect public health.
- Maintenance of the clay cap as well as maintenance and monitoring of the groundwater extraction and treatment systems at the site should be continued as directed in the ROD and CD documents.
- Groundwater monitoring should be continued at the NWSPCC Site as outlined in the Third Five-Year Review Final Report.

Public Health Action Plan

- IDPH will review results of site inspections and groundwater monitoring at the next 5-year review.
- IDPH will respond to any community concerns that may arise.

References

1. U.S. Environmental Protection Agency, Third Superfund Five-Year Review Report for the Northwestern States Portland Cement Company Site.

If you have any questions regarding the information in this letter please contact me at (515) 281-5894 or by e-mail at scolboth@idph.state.ia.us.

Sincerely,

Sara Colboth
Hazardous Waste Site Health Assessment Program, IDPH

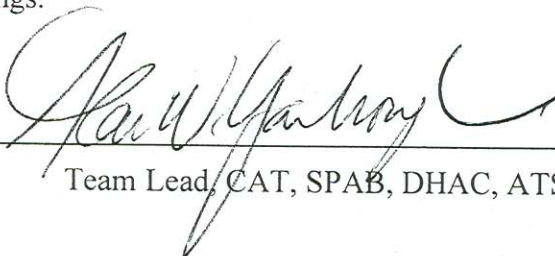
CERTIFICATION

The Iowa Department of Public Health, Hazardous Waste Site Health Assessment Program, has prepared this health consultation for the evaluation of the Northwest Portland Cement Company Site in mason City, Iowa under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). The document is in accordance with approved methodology and procedures existing when the health consultation was being prepared.



Technical Project Officer, CAT, SPAB, DHAC, ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation and concurs with its findings.



Team Lead, CAT, SPAB, DHAC, ATSDR