Site Review And Update

BEACON HEIGHTS LANDFILL

BEACON FALLS, NEW HAVEN COUNTY, CONNECTICUT

CERCLIS NO. CTD072122062

SEPTEMBER 8, 1993

REVISED

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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

Site Review and Update: A Note of Explanation

The purpose of the Site Review and Update is to discuss the current status of a hazardous waste site and to identify future ATSDR activities planned for the site. The SRU is generally reserved to update activities for those sites for which public health assessments have been previously prepared (it is not intended to be an addendum to a public health assessment). The SRU, in conjunction with the ATSDR Site Ranking Scheme, will be used to determine relative priorities for future ATSDR public health actions.

REVISED SITE REVIEW AND UPDATE

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CERCLIS NO. CTD072122062

Prepared By:

Connecticut Department of Public Health and Addiction Services
in Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

SUMMARY OF BACKGROUND AND HISTORY

The 83-acre Beacon Heights Landfill NPL Site is atop a ridge within the lower Naugatuck Valley. The landfill site is approximately two miles east of the intersection of Connecticut Routes 8 and 2 in Beacon Falls, Connecticut. Hockanum Brook, located one-half mile northwest of the landfill, flows into the Naugatuck River two miles to the west of the site.

The Beacon Heights Landfill received municipal and industrial wastes from the 1920's to 1979. From the 1920's to 1970, the original six-acre "Betkoski Dump" accepted a variety of wastes: municipal, rubber, plastic, and industrial chemicals and sludges. Some of the waste material was burned during this time. In 1970, the landfill area was expanded to approximately 30 acres. The waste material was no longer burned, and cover material was placed over the waste.

A preliminary investigation conducted by EPA in 1982 found groundwater impact from the landfill. EPA added the site to its Superfund (NPL) list in 1983. An EPA-approved Remedial Investigation (RI) was begun in February of 1984 and finished in April 1985.

In 1984, benzene was detected in two residential wells. The Connecticut Department of Health Services notified the occupants of the two residences that their well water was unfit for human consumption. Bottled water was provided to these residences at that time. Subsequently, all residences who agreed to, were provided public water.

All of the residential wells were resampled in 1986. No additional residential wells were shown to be contaminated.

A Record of Decision (ROD) was signed by the EPA Regional Administrator for Region I on September 23, 1985. The ROD requires the excavation of the Betkoski Dump and other contaminated soils for consolidation with the main landfill prior to closure. A cap will be placed over the main landfill to meet Resource Conservation and Recovery Act requirements, including: gas venting (with air pollution controls if determined necessary during design), fencing of the site, more extensive groundwater monitoring, and stormwater management controls. The ROD also requires the installation of a perimeter leachate collection system and a means of treating the leachate before being discharged. In addition, the local public drinking water supply was extended to residents near the site as a requirement of the ROD.

In 1989 an ATSDR health assessment concluded that this site posed a potential public health threat. This conclusion is based on past contamination of a small number of private wells with various

volatile organic compounds (VOCs) including benzene. These historical exposures in two homes who's wells were contaminated with benzene did pose a past public health hazard. Benzene at levels up to 131 parts per billion could have exposed children at up to 13 micrograms per kilogram per day (ug/kg/d) which is above an ATSDR estimated minimum risk level (MRL) of 10 ug/kg/d for noncarcinogenic adverse health effects. In addition, since benzene is a known carcinogen, residents who drank contaminated water for a long period of time may have a moderate increased risk of leukemia. However, we have no data to indicate how long the two wells were contaminated before bottled water was provided.

A 1991 addendum to the health assessment found little additional data on documented exposure. However, perimeter air monitoring did identify some of the same VOCs found in groundwater.

A supplemental ROD was signed by EPA in 1990. This ROD contained some of the same provisions of the earlier ROD but also identified: the location of the leachate treatment (Naugatuck municipal treatment plant), soil cleanup levels for satellite sites and the need for air pollution control equipment.

CURRENT CONDITIONS OF SITE

On March 22, 1993 Brian Toal of the Connecticut Department of Public Health and Addiction Services (CT DPHAS) visited the Beacon Heights Landfill (BHL). Site access was limited due to the initiation of remediation activities. However, most of the site was visible from off-site locations. Adjoining properties were also visited. Although a security fence has still not placed around the site, increased security has been placed at the main entrance to BHL. (Since the date of this visit, a security fence has been placed - EPA comment 10/1/93.) Although excavation activities had not begun, vegetation covering the landfill had been removed to prepare for the initiation of work. This could increase the potential for site erosion and runoff. No other notable changes were seen in the surrounding residential neighborhood. No odors or other indications of current exposures were noted.

Even though remediation of BHL has begun, as of this date conditions at the site are virtually the same as when the ATSDR Health Assessment and CT DPHAS Addendum were prepared in 1988 and 1991. The only major changes as already noted are increased security at the gate and the removal of vegetation. No significant new data have been produced in recent years so original conclusions of the Health Assessment/Addendum would remain unchanged.

CURRENT ISSUES

Most current issues and concerns are related to the remediation of BHL. A supplemental Record of Decision (ROD) was signed in 1990. An Explanation of Significant Differences (ESD) was drafted in 1993. The ESD changed the location of leachate treatment from the Beacon Falls treatment plant to Naugatuck. The planned mitigation will include the following:

1) Connection of homes near the site to the municipal water supply. (This has been completed except for a small number of homeowners who refused.)

2) Enclosing the site with security fencing.

3) Construction of a cap on the landfill. Contaminated soils in outlying areas of the site will be excavated and consolidated within the main landfill area before the cap is constructed.

4) Installation of gas vents in the landfill cap (with air pollution controls if necessary as determined by air testing after installation).

5) Installation of a leachate collection system around the perimeter of the landfill.

6) Installation of an additional pipeline to transport leachate from the leachate collection system to the sanitary sewer system.

7) Inspection, repair and/or replacement of defective portions of the sanitary sewer system that will transport the leachate to the wastewater treatment facility.

8) Treatment of the leachate at a permitted wastewater treatment facility. (Beacon Heights Plant)

9) Installation of a groundwater monitoring system.

Work on these steps has commenced and should be completed in 1993.

EPA organized meetings with the public and town officials were held March 8, 1993 to discuss their concerns about the site and remediation. Many of the expressed concerns involved logistics (traffic and schedule) and safety (emergency response), with few health related concerns expressed. In preparing the 1991 HA Addendum few if any community concerns were identified. There is some current concern over the safety of the leachate being transported to the treatment plant. Some citizens have expressed concern over potential sewage backups resulting in leachate being forced in to their basements. Operators of the sewage treatment

plant are also concerned that they might be exposed to toxics from the leachate.

Citizens have also asked about the release of "toxic fumes" during the excavation of contaminated soil. EPA has assured the community that air monitoring required to protect workers will assure community safety. The 1991 Health Assessment Addendum identified the inhalation of ambient air as a completed pathway of exposure for various VOCs quantified at the landfill property boundary.

Since landfill gas venting is planned, concern over this exposure route still exists. As part of EPA's supplemental ROD, an air monitoring program is planned to help decide if air pollution control equipment is needed.

Another issue is the soil cleanup levels for soil excavation. Contaminated soil from part of the site will be moved to an area that will be capped. Cleanup levels for this process were selected using a state of California model intended to protect groundwater from future contamination above appropriate comparison values or standards. Since the majority of nearby residences are hooked up to public water, groundwater contamination does not appear to pose a significant future risk so soil cleanup levels should not have an impact on exposure.

CONCLUSIONS

Conclusions reached in the previous Health Assessment and Addendum remain valid. No significant changes have occurred or new data produced which would change previous conclusions. However, the current category of potential public health hazard or indeterminate public health hazard might have to be changed after the remediation is complete.

Historical exposures in two homes who's wells were contaminated with benzene did pose a past public health hazard. Past benzene exposure could have exposed children to a dose that may result in noncarcinogenic health effects. In addition, since benzene is a known carcinogen, residents who drank contaminated water for a long period of time may have a moderate increased risk of leukemia. However, we have no data to indicate how long the two wells were contaminated before bottled water was provided.

Significant recommendations made previously in the Health Assessment were not followed.

1) No air study has been conducted to date. An air study is planned after the remediation is completed as well as during remediation.

2) To our knowledge no well survey has been conducted to assure that all residents with wells at risk of contamination are offered public water.

3) No regular sampling has occurred for those wells servicing residents not accepting public water.

RECOMMENDATIONS

The previous recommendations remain the same. One will be addressed by the planned remediation (air study). A well survey and well sampling are still recommended to determine the safety of nearby well users.

The following health-related activities are recommended. Data from air monitoring should be reviewed by a health agency to assure safety (Health consultation). Simple comparison with Connecticut's Hazard Limiting Values (HLVs) is not adequate since these values are not health based. For those homeowners who still refuse to hookup to public water, a community health education campaign is recommended. Of particular concern is children in those homes which have no choice in the source of their water. The CT DPHAS will identify if any residents have still not availed themselves of public water and educate them of the potential risks.

Results of air monitoring conducted during excavation should be evaluated on an immediate basis to assure worker and community safety. Action levels for such monitoring should be in place prior to work commencing. Dust created during excavation should be minimized. Assurances and precaution s on the prevention of leachate sewer backups should be sent to homeowners on the new sewer line. Sewage treatment plant workers should be informed of potential dangers from leachate treatment.

No current or future exposures are indicated at this time due to the site and no significant new data are expected.

The previously prepared Health Assessment and Addendum adequately address most major health issues related to this site.

HEALTH ACTIVITIES RECOMMENDATION PANEL (HARP) RECOMMENDATION

The data and information developed in the Site Review and Update for the Beacon Heights Landfill, Beacon Falls, Connecticut has been evaluated by ATSDR's Health Activities Recommendation Panel for appropriate follow-up with respect to health activities. The panel determined that community health education is indicated for this site. The primary objective of this education is to inform those exposed in the past to contaminated drinking water of the health implications of that exposure.

PUBLIC HEALTH ACTIONS

The Public Health Action Plan (PHAP) for the Beacon Heights Landfill contains a description of actions to be taken by CT DPHAS, at and in the vicinity of the site subsequent to the completion of this SRU. The purpose of the PHAP is to ensure that this SRU not only identifies public health hazards, but provides a plan of action designed to mitigate and prevent adverse human health effects resulting from exposure to hazardous substances in the environment. Included, is a commitment on the part of ATSDR/CT DPHAS to follow up on this plan to ensure that it is implemented. The public health actions to be implemented by CT DPHAS are as follows:

1. Conduct public education on the risks posed by drinking water contaminated with benzene. This will be a very directed program to the two homes with documented past benzene contamination.

2. Coordinate efforts of CT DEP, USEPA and the local health department to identify the homes that never hooked up to public water.

3. Initiate efforts to established a sampling program for the wells of those homes that did not hook up to public water and are thought to be at risk for contamination.

4. For those homeowners who have not availed themselves of public water, community education will be conducted.

5. CT DPHAS will review results of any air monitoring to assure no levels of concern are exceeded.

CERTIFICATION

The Site Review and Update for the Beacon Heights Landfill was prepared by the Connecticut Department of Public Health and Addition Services under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the Site Review and Update was initiated.

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The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this Site Review and Update and concurs with its findings.

Division Director, DHAC, ATSDR

DOCUMENTS REVIEWED

Documents reviewed by the CT DPHAS for this summary are as follows:

1. Beacon Heights Landfill Site, Health Assessment and Addendum. June 20, 1991. ATSDR

2. Issues and Questions of Fact. Community Interviews. February 8 and 9, 1993. USEPA

3. Beacon Heights Landfill. Supplemental Record of Decision. September 28, 1990. USEPA

4. Responsiveness Summary, Beacon Heights Landfill. September 28, 1990. USEPA

5. Pre-Design Studies - Beacon Heights Landfill. December 1989.

6. Explanation of Significant Difference - Beacon Heights Landfill. February 1993. USEPA

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