

# Health Consultation

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Review of the Interim Action Plan Fact Sheet

TOWER CHEMICAL COMPANY

CLERMONT, LAKE COUNTY, FLORIDA

CERCIS NO. FLD004065546

APRIL 13, 2000

**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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## **HEALTH CONSULTATION**

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**TOWER CHEMICAL COMPANY**

**CLERMONT, LAKE COUNTY, FLORIDA**

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**Prepared by:**

**Florida Department of Health  
Bureau of Environmental Toxicology  
Under Cooperative Agreement with the  
Agency for Toxic Substances and Disease Registry**

## BACKGROUND AND STATEMENT OF ISSUES

The Florida Department of Health (FDOH), through a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR) in Atlanta, Georgia, evaluates the public health significance of hazardous waste sites in Florida. On March 13, 2000, the United States Environmental Protection Agency (EPA) requested that FDOH review the Draft Interim Action Proposed Plan Fact Sheet for the Tower Chemical Company Superfund National Priorities List hazardous waste site and provide comments on the protection of public health. The fact sheet presents information regarding the options that the EPA has evaluated in order to protect public health from the remaining chemical contaminants at the Tower Chemical Company site.

FDOH has determined that a health consultation is an appropriate response to evaluate EPA's proposed fact sheet and the Interim Actions. In this health consultation, FDOH reviews the proposed interim alternatives presented in the fact sheet and provides recommendations to protect public health. The interpretation, advice, and recommendations presented in this health consultation are site-specific and are not applicable to other sites.

The Tower Chemical Company site is approximately 3.5 miles east of Clermont, Lake County, Florida. The site occupies two portions of land. The main office, the manufacture facility, and two waste disposal areas occupy a 14-acre portion west of County Road 455. A 20-acre spray irrigation field occupied the second portion, approximately 2,000 feet west of the main facility. From 1957 to 1981, Tower Chemical Company manufactured and stored organochlorine and organophosphate pesticides. The company discharged wastewater into an unlined evaporation pond and buried or burned wastes on another portion of the site. The company used the spray irrigation field for a brief period in 1980 after the evaporation pond overflowed. In 1980, Florida Department of Environmental Regulation (FDER) ordered Tower Chemical to cease all discharges from the site.

EPA has analyzed groundwater, surface water, soil, sediment and air samples on the site and within 0.75 mile of the site. With the exception of off-site groundwater and air, these analyses showed contamination in all media with various pesticides and chemicals used in pesticide manufacturing. In 1983, EPA excavated the burn/burial and wastewater areas to approximately eight feet. EPA removed two thousand five hundred cubic yards of contaminated soil and seventy-two buried drums. In addition, EPA treated one million gallons of pond and groundwater. A 1986 public health assessment conducted by ATSDR concluded that contaminants in the groundwater were only likely to cause illness if the contaminants migrated to the Floridian aquifer, which provides area residents with drinking water. As of 1992, approximately 60 residents live within one mile of the site and 16 private, domestic-use wells have been identified around the site.

Between 1988 and 1990, EPA removed and incinerated more contaminated soil and treated more contaminated shallow groundwater. In addition, EPA relocated two storage tanks and the underlying soil to a fenced area and disposed of nearly 12,000 gallons of

contaminated water. Because of these cleanup efforts and the restriction of pedestrian site access, on-site soil, surface water and sediment no longer present a health risk to area residents. However, contamination continues to be present in sub-surface soil and on-site surficial and Floridian aquifer groundwater.

EPA and Florida Department of Environmental Protection (FDEP) are concerned that the contaminants could migrate in the Floridian aquifer to off-site potable wells and pose a health hazard to area residents. Therefore, EPA continued sampling and analyzing groundwater from the surficial and Floridian aquifers both on and off of the site. In addition, in 1993, EPA began annual testing of nearby private wells. Testing from 1993 through 1999 showed contamination of both the surficial and Floridian aquifers beneath the site but infrequent contamination in off-site groundwater. EPA believes that the potential for contamination of local drinking water still exists and therefore, proposes measures to protect residents from groundwater contamination.

### **CHILDREN AND OTHER UNUSUALLY SUSCEPTIBLE POPULATIONS**

The unique vulnerabilities of infants and children demand special emphasis in communities faced with the contamination of their environment. Children are at a greater risk than adults from certain kinds of exposure to hazardous substances emitted from waste sites. They are more likely to be exposed because they play outdoors and because they often bring food into contaminated areas. They are shorter than adults, which means they breathe dust, soil, and heavy vapors close to the ground. The developing body systems of children can sustain permanent damage if toxic exposures occur during critical growth stages. Most important, children depend completely on adults for risk identification and management decisions, housing decisions, and access to medical care.

### **DISCUSSION**

The Draft EPA Interim Action Proposed Plan Fact Sheet describes the protective alternatives for residents with domestic wells in the area of Tower Chemical Company site. EPA has proposed and evaluated three interim alternatives that are designed to eliminate the health risk from consumption of groundwater by area residents until a final groundwater remediation solution is developed.

Below is a summary of the alternatives that EPA has proposed for this interim protective action.

Alternative #1 - Under this alternative no action would be taken and the site would be left "as is". In the preparation of remedial or health action plans, consideration of this alternative is required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Alternative #2 - EPA will install filters on the drinking water wells at residences surrounding the site. EPA has estimated that seven private wells will have a filter installed under this action. These filters contain activated charcoal which will remove any organic contamination from the groundwater prior to consumption. Periodic replacement of the filters would be required under this action. In addition to installing filters, EPA would continue to monitor six shallow and six deep, Floridian monitoring wells surrounding the site. Water samples would be analyzed for the contaminants previously identified at the site.

Alternative #3 - Like Alternative #2, EPA would continue to monitor the surficial and Floridian aquifer groundwater surrounding the site. However, instead of installing filters on the wellheads of the private wells, EPA would extend the municipal water supply for the city of Clermont to residents in the immediate area of Tower Chemical Company. The city of Clermont draws its water from wells some distance from the site and therefore, municipal water would not be affected by this site.

Because the risk of the contamination reaching the private residential wells continues to exist, Alternative #1 is not sufficient to protect public health and therefore, EPA is no longer considering this "action". EPA believes that Alternatives #2 and #3 would both sufficiently protect area residents from groundwater contaminants by eliminating contamination at the wellhead or by preventing the use of local groundwater, respectively. The most significant difference in the two alternatives would be the cost involved. EPA has estimated that the initial installation and maintenance of the filters would cost approximately \$300,000 less than the successful completion of Alternative #3.

Therefore, EPA has concluded that the preferred interim action is the installation of wellhead charcoal filters at residences near the site. This decision was based on the following:

1. Alternative #2 is as effective as Alternative #3 in regards to preventing the exposure of residents to contaminants in groundwater.
2. Under both Alternatives #2 and #3, EPA will continue to monitor the surficial and Floridian aquifers for contamination off-site and therefore, further characterize the extent of contamination.
3. Alternative #2 is more cost effective than Alternative #3.
4. The completion of Alternative #2 will not introduce any inconvenience to area residents in the form of construction activities or traffic disruption. These activities/inconveniences are anticipated with Alternative #3.
5. Once approved, the completion of Alternative #2 should take considerably less time to put into effect compared to Alternative #3, which requires the laying of almost 2,400 feet of water line and 900 feet of service line.

The advantage of connecting area residents to municipal water supply is that the private wells at these residences could be closed and the threat of exposure to contaminated groundwater eliminated completely.

## **CONCLUSIONS**

FDOH concurs with EPA's evaluation. The installation of charcoal filters and continued monitoring of groundwater contamination will protect the health of the area residents from the contaminants in the potable, Floridian aquifer.

## **RECOMMENDATIONS**

1. EPA should identify which potable wells are to have filters installed and give rationale as to why specific wells were chosen. EPA is proposing to install filters on seven of the sixteen area wells. This explanation may prevent feelings of neglect by residents who will not have a filter installed. If the specific wells cannot be identified, EPA should include the rationale to identify which wells will have filters installed (e.g., direction of plume migration, direction of groundwater flow, etc.).
2. EPA should include approximate locations and the rationale for the locations of the surficial and Floridian wells to be monitored under Alternative #2.
3. EPA should include more detail in regards to the frequency of testing and locations of the monitoring wells in the surficial and Floridian aquifers.
4. EPA should include a statement in the fact sheet clarifying how they will sample the nearby private wells and how often. This is especially important for those wells with charcoal filters. Data from these private well samples is important to determine how often the charcoal filters should be replaced.

### **Documents Reviewed**

ATSDR (1986) Public Health Assessment, Tower Chemical Company, Clermont, Lake County, Florida.

DHRS (1992) Site Review and Update, Tower Chemical Company, Clermont, Lake County, Florida.

EPA (2000) Interim Action Proposed Plan Fact Sheet, Tower Chemical Company, Clermont, Lake County, Florida.

NUS Corporation (1986) Remedial Investigation, Tower Chemical Company, Clermont, Lake County, Florida.



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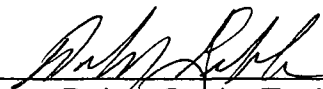
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## CERTIFICATION

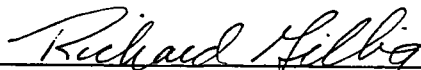
This Tower Chemical Company Health Consultation was prepared by the Florida Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.



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Debra Gable, Technical Project Officer  
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ATSDR

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



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Richard Gillig,  
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