

On July 30, 2009, Buncombe County posted a list of community questions generated after the April 21 meeting of the Buncombe County Board of Commissioners and the answers provided by the various government agencies involved with the site. The questions and answers are at: www.buncombecounty.org/governing/depts/Health/news_detail.asp?newsID=7828

This is a copy of what is posted on the referenced website.

Below is a compilation of questions posed by the community following the Buncombe County Commissioners Meeting, which took place on April 21, 2009. The following agencies have contributed to the answers for these questions.

EPA Environmental Protection Agency, Superfund Division, Region 4

NCDENR: North Carolina Department of Environment and Natural Resources, Division of Waste Management, Inactive Hazardous Sites Branch

NCDPH: North Carolina Department of Health and Human Services, Division of Public Health

1. How far away was the CTS score from the NPL score? How many people were included in the head count for the study?

EPA: The current HRS scoring assessment documents are not releasable, because they are considered to be part of the EPA deliberative process. Past HRS scoring assessments conducted by EPA at the ESI stage (May, 2001) and the Site Reassessment (June, 2006) have concluded that the site does not score sufficiently high to rank the site on the NPL. Since the site score was below the 28.5 threshold, EPA made a No Further Remedial Action Planned (NFRAP) determination. Once EPA makes that determination, the site score is releasable to the public. Therefore, EPA can provide that the preliminary site score following the 2006 Site Reassessment was 5.3. Shortly after the reassessment score was calculated, the toxicity value for TCE changed (higher). Even with this change in values, a recalculated score was 16.96.

Documentation from residents at the time that the contamination was found indicated that 3 adults resided at the 2 homes using the spring as a drinking water source and 3 adults and 2 children (kept during the day) lived at 2 homes using the well at 10 Concord Road as a drinking water source.

EPA is currently reassessing the site using previous data and all new data that has been obtained during subsequent private well sampling efforts (e.g., the Oaks Subdivision).

The property area included in the site score includes property currently or historically owned by CTS at the site location (i.e., all known sources attributable to CTS operations).

2. What legal protections does CTS enjoy by participating in voluntary cleanup?

NCDENR, Division of Waste Management: The Inactive Hazardous Sites Response Act (the "Act") requires the state to first solicit the cooperation of a responsible party before issuing an

administrative enforcement order. If a party voluntarily participates in a state-approved remedial action program under that Act, the Act also currently limits their costs for cleanup to \$3 million per responsible party. Eligible costs do not include assessment costs and the costs of preparing a remedial action plan for cleanup. Therefore, as long as CTS voluntarily participates in a state-approved remedial action program under the Act and the Act is not amended, these provisions in the law would apply. This law does not speak to legal protections/limitations in liability from third party law suits. Since this is a legal question, we would advise the inquirer to consult with an attorney of their own choosing and at their own expense that is licensed to practice law in the state of North Carolina for any advice or guidance in this regard.

3. At what step in the federal fund designation does the site fail to get 28.5 and how far below this threshold does the site score?

EPA: This site has been evaluated three times. Prior to the current ongoing HRS evaluation, the site received a score of 5.3 after a Site Reassessment study in 2006, resulting in a “No Further Remedial Action Planned” (NFRAP) decision.

4. How much has been spent on the site so far?

EPA: As of 4/2/09, EPA has estimated costs totaling \$1,427,941.83. CTS has conducted investigations under both EPA and DENR authorities and has constructed the soil vapor extraction system and ozonation system. CTS costs are unknown at this time.

NCDENR, Division of Waste Management: The answer to this question, related to the work that the state Inactive Hazardous Sites Branch, or IHSB, has required CTS to perform, so far is unknown. Cost information was requested from CTS in response to this question and they indicated that don’t have a summary of total costs incurred to date readily available. Additionally, this is not information they would be required to submit.

5. NCDENR makes it sound like the “voluntary” clean up legislation is not optional. Is this true?

NCDENR, Division of Waste Management: State law requires the IHSB to first solicit voluntary cleanup cooperation from a responsible party. If CTS refuses to continue voluntary cooperation at any point during the process, the IHSB can issue an Administrative Order compelling that the work be completed. The technical cleanup requirements are the same whether work is conducted under an administrative agreement or an administrative order.

6. If it is scientifically proven the Oaks subdivision was not contaminated by CTS, and all residents swear to no engine degreasing, septic flushes etc., how else could it have gotten there? How long would it take for a surface spill to reach the groundwater wells?

EPA: EPA is currently investigating the contamination in the Oaks Subdivision. The object of the current attribution study is to evaluate whether the well contamination at the Oaks is connected to the CTS site or whether there is a localized source present in the subdivision itself.

With respect to the second question, EPA can answer only in general terms. In order to speak in specific terms to answer the questions posed, a comprehensive groundwater study would need to be completed to allow a full understanding of the specific geological and aquifer flow conditions in the bedrock aquifer in the Mills Gap Road/Oaks Subdivision area. CTS has not completed its investigation to determine the extent of the contamination from the CTS site.

Trichloroethylene (TCE) is a denser-than-water liquid chlorinated solvent, which is commonly referred to as a dense non-aqueous phase liquid (DNAPL). When spilled on the ground, DNAPL travels through the vadose zone (that portion of Earth between the land surface and the saturated zone). The top of the saturated zone is commonly called the water table. Once the DNAPL reaches the water table it begins to travel as a dissolved component of the groundwater. In addition, it continues to travel downward through the saturated zone until an impermeable layer of earth is encountered. The DNAPL then pools on the impermeable layer and continues to slowly dissolve into groundwater, flowing through the area where it contacts the DNAPL, causing contamination to migrate and persist over a period of years or decades.

The speed of travel through the vadose zone is determined by site-specific conditions, including: 1) the density and viscosity of the DNAPL; 2) the pressure driving the DNAPL migration; 3) the permeability of the geologic medium; and 4) the degree of DNAPL saturation. With all of that being said, the time span for the DNAPL to reach the water table is usually expected to be in a weeks to months timeframe.

The Oaks Subdivision and the general site area are located over hard impermeable bedrock, and groundwater there moves through the subsurface immediately on top of the bedrock and through fractures in the bedrock. Under natural conditions, groundwater flow velocities in fractured rock aquifers are in the feet per year range. However, regular pumping of a household well located near an area of contaminated water can pull that water several hundreds of feet along an individual fracture towards the well in a matter of months.

7. What is being done at the edge of the plume of TCE to stop the spread?

NCDENR, Division of Waste Management: The investigation is still on-going to determine the extent of contamination and the rate at which it is migrating.

It is already known that the TCE plume close to the former plant property is impacting the surface water springs on the adjacent Rice property (the Rice's former drinking water supply). For this reason, the EPA and CTS are implementing the ozonation pilot remediation system under EPA's emergency removal action authority to reduce the impact of the contaminated groundwater discharge to the springs. This is not being undertaken as a complete remediation effort, but rather, as part of the EPA's emergency response to remove immediate exposure and targets a specific part of the TCE contamination plume.

Part of the purpose for the ongoing IHSB required assessment activities is to determine the extent of the TCE plume so that an effective remediation strategy can be proposed to clean up the contamination. After the IHSB directed assessment efforts have completed defining the full groundwater contamination plume, a more complete remediation plan will be proposed for full-

site cleanup. Additionally, while this assessment effort is on-going, the EPA is leading efforts to continue sampling surrounding residential supply wells to determine if any additional impacts have occurred, and to supply those impacted residents with an alternate water source. To date, the only residential supply wells which have shown TCE related contamination are the three residential supply wells previously referenced in The Oaks subdivision and the one residential supply well previously known to be contaminated and supplied with alternate water in 1999 on Concord Drive. No other supply wells have been shown to be impacted by TCE contamination.

8. Why was EPA Region 4 absent from the vapor intrusion conference?

EPA: Each EPA region hosts vapor intrusion conferences and workshops. On August 12, 2008, EPA Region 4 hosted a Vapor Intrusion Workshop that included EPA experts from several EPA Regional offices, the EPA office at Research Triangle Park, and EPA headquarters. The OSC for the site attended that workshop and made a presentation concerning the CTS site. He opened the floor to comments on the December 2007 study design and the ozonation system preliminary design.

Dave Mickunas from EPA's Environmental Response Team (ERT) attended both the EPA Region 4 workshop and the EPA Region 3 conference. Mr. Mickunas, the senior EPA consultant on the initial vapor study design, was present for all the CTS vapor pathway sampling events, and continues to provide consultation.

9. How can EPA be certain that there is no vapor intrusion in Southside Village when the sampling should have been done over 10 days and not 24 hours as prescribed by vapor intrusion symposium in Philadelphia?

EPA: First, a clarification is needed. Vapor intrusion generally refers to vapors emanating from groundwater into homes or buildings. Of 10 homes sampled, 2 had detections above the laboratory reporting limit; however these were below EPA screening levels. Subsequent ambient testing in August 2008 detected TCE vapors emanating from the creek along Mills Gap Road on South Side Village (SSV) property. These values were also well within EPA acceptable risk range for residential exposure. Samples taken at the Gazebo on SSV property were non-detect for TCE.

The 24-hour sampling protocol with Summa Canisters is consistent with EPA Interstate Technology and Regulatory Council (ITRC) guidance. The protocol has been used successfully throughout the country and is the standard for all EPA sampling. EPA scientists at Research Triangle Park have concluded that this methodology is currently the most reliable method for measuring volatile organic chemicals (VOC).

10. Do you plan on doing a door to door health survey? If so, when and where?

NCDPH: A door-to-door health survey is not currently being planned by the North Carolina Division of Public Health (NCDPH).

The Public Health Assessment (PHA) will evaluate the potential for adverse health effects

related to the environmental contaminants identified during the investigations on the CTS/Mills Gap Road site. This evaluation is based on:

1. The concentrations of contaminants found in the water, soil and air
2. The opportunity for people to have come in contact with the contaminants
3. How they came in contact with the contaminant (by breathing, drinking, or touching the contaminants); and,
4. The length of time people may have been in contact with the contaminant.

The PHA will also identify the types of adverse health outcomes that would be expected for chemicals found to be present at the site and for the types of exposures people may have had to these chemicals. The PHA will determine potential non-cancer health effects for all chemicals persons are exposed to (come into contact with) at the concentrations, time periods, and means of contact (such as drinking or breathing it) that have the potential to cause adverse health effects in the exposed population in the community that we are studying. Potential cancers that can occur in the study population will also be identified for those chemicals that are known or suspected to cause cancer and have been identified by the PHA. The types of adverse health effects and cancers for the applicable chemicals will be included in the PHA. If the PHA indicates that there is the potential for adverse health outcomes to result from the environmental exposures to chemicals identified during investigations at the CTS site, then a health survey (epidemiology study) might be recommended as part of the final PHA recommendations. However, the purpose of this investigation is only to determine if there was the potential for adverse health outcomes. Doing a door to door survey, or an epidemiologic study, might be called for if the PHA study indicated a strong potential for adverse health outcomes to likely exposures to chemicals discovered in the PHA.

The group that would be involved in doing an epidemiology study, if it is deemed appropriate, would not be the same group that conducts the PHA. An epidemiology study would likely rely heavily on the local Health Department, the North Carolina Center for Health Statistics, the NCDPH Public Health Regional Surveillance Teams (PHRSTs) and other Physicians, Epidemiologists, Toxicologists and Statisticians within NCDPH.

It is important to realize, that contact with, or exposure to, a chemical does not necessarily lead to harm. We are all in contact with, or exposed to, thousands of chemicals everyday. For harm to result, the contact with the chemical must be at a high enough concentration, for a long enough period, and by an appropriate route of exposure (through the lungs, mouth or skin). The concentration, time period, and route of exposure that can result in harm are specific to each chemical. Additionally, for a cancer to develop, the exposure must be at a particular concentration or greater, for a long enough time period, and by the appropriate route. Not all chemicals cause cancer. A particular chemical causes particular types of cancer. So, identification of the number and types of cancer are critical to identifying a link between environmental exposures and cancer causes. It is imperative that a full evaluation of the chemicals found, and their potential for exposure of the population at risk, be done to decide if any further investigation is called for. Any further investigation done would have to focus on diseases, or adverse health outcomes, likely to result from exposure to the chemicals found at the site. Any further investigation would be out of the scope of the initial PHA investigation.

However, if there were compelling evidence suggesting that it might be beneficial, then further investigations would surely be thoroughly considered.

Another problem in determining whether cancers are related to a particular environmental exposure is that typically cancers develop and become apparent many years and often decades after the initial exposure. During this extended time period between exposure, development of a cancer, and clinical appearance of the cancer a person is also exposed to a number of other chemicals or other environmental factors that can contribute to eventual cancer development. It is usually difficult or impossible to link a cancer to a particular exposure to a specific chemical in a human population. Further, not all cancers are due to environmental exposures. Other possible causes include genetic susceptibility, viruses, and hormonal exposures. To link cancers to a site also requires identification of a statistically significant increase in cancer rates (the number of cancer cases in a population). In a typical population living to their 50's or later, 1 in 3 people will develop cancer. For cancers to be linked to the CTS site two things must be shown; 1) a significant increase in the number of specific cancers greater than the 1 in 3 frequency, 2) and of the specific cancer type shown to be caused by the contaminants of concern at the site (those for which an exposure of high enough concentration, for long enough time period, by the appropriate route). It is not fruitful to study cancers in a cluster investigation of a possible environmental exposure that have not been shown to be caused by the specific environmental exposures of concern. Thus, if a chemical has not been shown to cause cancer it is not fruitful to do a cancer cluster investigation based on the presence of that cancer in the population. However, if a chemical has been shown to cause other adverse health outcomes then further investigations might be helpful to look at the occurrence of those diseases.

Additional question presented to NCDPH regarding investigation of occupational exposures that occurred at CTS:

The facility was visited in 1974, 1978, and 1979 by the Occupational Health Branch, Division of Public Health. The reports indicated that CTS manufactured electronic components for television sets, telephone dials, and other electronic parts. In 1974, samples were collected for trichloroethylene and 1,1,1-trichloroethane. The report indicates no overexposure occurred while the Occupational Health Branch was present at the site. The air sampling data collected during the 1974 visit was compared to the exposure guidelines that were in use in 1974. It should also be noted that the current assessment of this site is an environmental assessment, not an occupational exposure assessment.

The Public Health Assessment being conducted by the NCDPH Health, Assessment, Consultation and Education (HACE) Program will evaluate the potential for adverse health risks associated with environmental exposures and will not evaluate occupational exposures. Currently, occupational exposures are covered by the North Carolina Department of Labor (<http://www.nclabor.com/>). The DOL is a separate agency from the North Carolina Department of Health and Human Services (NCDHHS)/DPH. Answers to questions provided by: NCDHHS, Division of Public Health, HACE Program. May 11, 2009.

11. Why has the NCDENR, if they are working with ATSDR, not put the affected community into the national sub-registry on TCE? Who is responsible for this?

NCDPH: In the late 1980's the ATSDR initiated a drinking water trichloroethylene (TCE) registry. The registry was dismantled a few years ago. Data from the ATSDR TCE registry was not designed to be generalizable to other communities with potential TCE exposures.

12. What happened to the barrels on the site now? Is that content being tested as to amount of toxic matter found?

NCDENR, Division of Waste Management: The only barrels that are on the main plant site are those containing investigation derived waste (IDW). IDW is soil and groundwater generated by contractors during the installation of monitoring wells and soil borings as part of the on-going investigation efforts. Some barrels of IDW have also been generated as part of the EPA-led installation of the ozonation pilot remediation project at the Rice property springs. Any barrels of IDW generated by contractors are periodically removed from the site for disposal at an off-site facility which is appropriately permitted to receive this type of waste soil and groundwater. Mactec, the consultant for CTS, provides manifests to document this process. Drums of IDW generated from installation of the EPA ozonation remediation project at the springs were last removed from the site on Dec. 24, 2008. The only drums currently on the site contain IDW from drilling activities associated with the IHSB directed assessment.

Drums that were used historically at the site when the former plant was operational are no longer present. In 2000, EPA's response engineering and analytical contractor (REAC) conducted geophysical surveys at the site in an attempt to locate buried drums or tanks. The geophysical surveys included the use of a Geonics EM-31 terrain conductivity meter and a Gem Systems GSM-19 magnetometer. Trenches were also dug in areas of geophysical anomalies. None of the geophysical investigations or the trenching efforts revealed buried drums at the site. Please refer to the EPA Trip Report W.A. #0-0141, dated December 20, 2000, for additional details regarding the previous geophysical investigations. This document can be viewed at the EPA information repository at the Pack Memorial Library in Asheville.

All previous EPA-led source area investigations and soil testing have pointed to the main discharge areas of contamination as being from releases/spills inside the building and immediately behind the building.

13. Why has NCDENR not enforced its order to have toxins listed on South Side Village and South Side Estates property deeds?

NCDENR, Division of Waste Management: Mills Gap Road Associates (MGRA) owned the former CTS property. The State ordered MGRA to record a Notice of an Inactive Hazardous Substance or Waste Disposal Site on property they owned on Mills Gap Road. Shortly prior to the order being issued, MGRA had subdivided and sold a portion of the former CTS property. MGRA thus recorded a Notice at the 9-acre tract holding the main plant facility that they still owned. South Side Village and South Side Village Estates are not, and were not, located on the property owned by MGRA at the time the Order was issued.

The state Residential Property Disclosure Act (RPDA) exists for disclosure of environmental defects on residential property. Owners selling such property would be subject to the disclosure

requirements of the RPDA. After the completion of the delineation of the extent of contamination in soil and groundwater, the state may require additional notices to be recorded, especially at any non-residential properties confirmed to be contaminated.

14. Why is there no mention of contaminated Robinson Creek and Dingle Creek which are pathways in this agreement?

NCDENR, Division of Waste Management: The proposed administrative agreement is a document that formally declares in general terms that CTS will remediate the “site” in accordance with IHSB rules and guidance. The “site” is defined as anywhere the contaminants have come to be located in the environment. As the assessment has not yet been completed, environmental impacts are not specifically listed or limited in the language of the document. CTS is responsible for assessing and remediating any impacts the site has made to surface waters that exceed the State’s 15A NCAC 2B surface water quality standards.

15. If the administrative order of consent is legally enforceable then why is that not sufficient? Why do we need another AOC?

EPA: The 2004 Administrative Order on Consent (AOC) between EPA, CTS Corporation, and Mills Gap Road Associates addresses: 1) contamination in the soils above the water table; and, 2) mitigation of surface water contamination at the contaminated springs. Those terms are legally enforceable. The AOC was administered pursuant to EPA’s Emergency Time Critical Removal Authority under the National Contingency Plan (NCP). Consistent with the NCP, the groundwater contamination was referred for evaluation to determine the site’s eligibility for the NPL and to the State of North Carolina for clean up under State authority (i.e., NCDENR).

NCDENR, Division of Waste Management: The proposed administrative agreement with the IHSB (Division of Waste Management) is a different type of document than the “Administrative Order of Consent,” between the EPA and CTS. The proposed administrative agreement with the IHSB is an agreement with state government. The EPA “Administrative Order of Consent” with CTS is an agreement with the federal government. The proposed IHSB Administrative Agreement is a formal acknowledgment by CTS with the state Division of Waste Management (Division) that CTS will prepare a remedial action plan in accordance with N.C. General Statutes 130A-310 et. seq. when the assessment activities have been completed and approved. The EPA’s “Administrative Order of Consent” is a document which covers emergency investigation and remediation activities to be performed by CTS under specific federal legal authorities that differ greatly from state’s legal authorities. Both the EPA and the state of North Carolina are requiring work under their respective authorities. Both the EPA and the state are coordinating their efforts for the maximum and most efficient result that can be legally implemented.

16. How does NCDENR’s proposed agreement with CTS affect EPA’s actions on the CTS site?

EPA: With respect to the HRS scoring process, EPA will continue to evaluate the site until a final scoring decision is made. If the site scores high enough to be eligible for the NPL, EPA will seek concurrence from the State of North Carolina before officially proposing the site in the

Federal Register. If the site fails to score high enough to be eligible for the NPL, the site will be given a NFRAP designation, and the site will be referred to the State.

EPA will continue to administer the 2004 AOC, pursuant to EPA Emergency Response authorities, between EPA, CTS and Mills Gap Road Associates (MGRA) until the terms of the AOC are satisfied. The NCDENR proposed agreement does not alter those obligations. Any costs incurred by CTS under the EPA AOC are not applicable to the NCDENR liability cap.

17. Is it true that if EPA cleans up the site, they will bill CTS for full cost? Did the citizens of Asheville pay for new water lines for residents around CTS?

EPA: With respect to the first question, EPA's policy is to pursue full cost recovery with any and all potentially responsible parties (PRPs) for this site. If the site is listed on the NPL, EPA's policy is to first negotiate with the PRPs to reach an agreement to conduct the remedial investigation and feasibility study and eventually the cleanup, rather than spend Superfund dollars to conduct the investigation and eventual cleanup. If an agreement is not reached with the PRPs and Superfund monies are available, EPA would perform the actions and pursue the PRPs for cost recovery.

18. Will the taxpayers have to pay to clean the entire 57 acre CTS site?

EPA: With respect to EPA's position on this matter, please see answer to # 16 and #17.

NCDENR, Division of Waste Management: CTS, and any other potential additional responsible parties identified, are required to cleanup the site to according to state law. They would bear the cost of cleanup.

19. Do any of the EPA, NCDENR officials know about the Carolina Day School and Harris Teeter monitoring and is it related to CTS?

NCDENR, Division of Waste Management: This is a contamination site related to Blue Ridge Cleaners at 1378 Hendersonville Road. This incident is currently being investigated under the Dry-cleaning Solvent Cleanup Program in the state Division of Waste Management. It is unrelated to the CTS site.

EPA: This site is not in EPA's CERCLIS database and, therefore, is not being investigated by the EPA Superfund program.

20. Why has the public not heard from any official from CTS at any time, could it be that they feel they have the public over a barrel?

EPA: Only CTS can answer this question. EPA has invited CTS to EPA-sponsored public meetings and the Buncombe County Commissioners public meeting.

NCDENR, Division of Waste Management: This question should be directed to CTS by the

public. The IHSB passed this question to CTS and the response received indicated that Senior Vice President of Administration James L. Cummins sent a letter to the Buncombe County Commissioners on Oct. 29, 2007. Other than this letter, CTS responded that they think it is more efficient and effective to address the site concerns by closely working with the EPA and the state of North Carolina. Since the IHSB cannot require CTS to appoint a public relations liaison for the community, if additional direct CTS public relations involvement is desired by the community, they should communicate those requests directly to the company. The CTS contact person with whom the EPA and the IHSB are communicating is:

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