

Clinton Coal Gas Community Advisory Group Comments

Draft Site Characterization and Risk Assessment Clinton Coal Gas Site Clinton, Iowa

**By
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The Technical Outreach Services for Communities (TOSC) program provides technical assistance to communities at cleanup sites, by presenting fundamental science information. The goal is to empower communities with an independent understanding of the underlying technical issues related to hazardous substances so they may participate substantively in the decision-making process.

The Clinton Coal Gas Site Community Advisory Group has been asked to make comments to EPA on the Draft Site Characterization and Risk Assessment. This document is a second draft of the CAG comments prepared following the March 20, 2000 CAG meeting.

The CAG appreciates the process that EPA has followed to include the community in reviewing and commenting on the draft Site Characterization and Risk Assessment. This process has helped the community stay informed of the investigation results and regulatory activities. It has also allowed the community to have constructive input in the review process.

During the review meetings, Diana Engeman of EPA and Michelle Wei of the Iowa Department of Public Health raised a number of important concerns about the document. Based on these comments the CAG expects there will be substantial revisions to the risk assessment.

The community's concerns about the site center around one main question: **What is the dangerous part of this site?** Specific topics of concern to the CAG are similar to the results of the public health survey that identified drinking water safety, contamination of the river, groundwater contamination, and health risks as areas of concern.

1. SAFE DRINKING WATER

Clinton residents are proud of the high quality of their drinking water. This must be preserved. The CAG understands that city wells are tested quarterly to monitor drinking water quality. Monitoring of the groundwater at the site should continue to insure the safety of Clinton's drinking water.

- a. The two deep wells at the site are primary concerns to the CAG. Although one well has been located, more effort should be made to find the second deep well. Both wells should be properly capped to eliminate a pathway for contaminants to reach the source of drinking water. Measures should be taken to insure that future disturbance at the site does not compromise these wells.
- b. The IDPH (Iowa Department of Public Health) raised concern that the deep aquifer may not be truly protected from contaminants migrating from the shallow aquifer because of the geology of the dolomite layer separating the aquifers. This should be addressed.
- c. The CAG remains concerned about lead contamination at the site including in the drinking water. The EPA action level for lead in water is 15 ug/l. Many of the groundwater lead concentrations listed in Appendix I are above this level. Will this be considered in determining groundwater cleanup standards?

2. CONTAMINATION OF THE MISSISSIPPI RIVER

The site should not be a source of pollution of the Mississippi River.

- a. The CAG is concerned that the site characterization has not fully addressed the potential for exchange of contaminated groundwater and surface water from the Mississippi River. The site characterization should include groundwater modeling to evaluate this issue.
- b. Although 11 river sediment samples were analyzed, it seems unlikely the collection of sediments along the current bank would reveal potential river impact unless there was a current release problem. The riverbank was at a different location in the early 1950's when the facility was closed. The river sediment sampling that was done in the current investigation may not document the full potential for release of contaminants into the river.
- c. The screening ecological risk assessment focused on the potential impact of the site to threatened and endangered species. The community is also concerned about the potential impact of the site on other plants and animals. The ecological risk assessment should fully discuss the potential for contaminants such as PAHs (Polyaromatic hydrocarbons) and PCBs (Poly chlorinated biphenyls) to accumulate in exposed organisms. This process is called biomagnification. A CAG member found a reference that suggests the potential of biomagnification of PAHs. Residual lead at the site could also pose an ecological risk since lead can be accumulated in vegetation. These issues should be fully discussed.
- d. CAG members expressed concern that waterfowl are occasionally found that are coated with oily substances. They realize that it is difficult to determine the cause of this problem, but it is a concern to the community.

- e. What assurances can be provided that the site will not be a source of contamination of the river now and in the future?

3. GROUNDWATER

The CAG is relieved that the EPA and state policy includes the consideration of groundwater restoration. The CAG recognizes the shallow aquifer is not currently used, but future water needs are unknown. The CAG understands the state considers the shallow groundwater to be a protected resource.

It would be helpful for the risk assessment to include a land use and exposure scenario that includes potential future use of the groundwater for irrigation, recreation, or drinking water. For example, a prolonged future drought may compel the city of Clinton to use the shallow aquifer for irrigation and fire fighting purposes. The community may want access to information on the potential health risks of using the groundwater even if its future use is restricted. What standards will be used by the state and EPA to determine groundwater cleanup requirements in the shallow aquifer?

4. HEALTH RISKS TO NEARBY RESIDENTS, VISITORS, AND WORKERS

The CAG is very concerned about increased health risks the community faces because of environmental contaminants. The CAG realizes that this investigation focuses only on the Clinton Coal Gas Site, but it is important to realize that most community members do not connect their health concerns from environmental contaminants to specific hazardous waste sites. Continued efforts need to be made to communicate health risks to the public.

- a. The CAG would like EPA to clarify what increased cancer risk values will be used to determine the need for clean up at the Clinton Coal Gas Site. The CAG understands if the increased risk from cancer is greater than 1 in 10,000, then action will be taken. Apparently the law allows flexibility in setting risk goals between increased risk of 1 in 10,000 and 1 in 1,000,000. What increased cancer risk criteria are to be used by EPA at this location?
- b. In the risk assessment, the health risks from the site seem to be minimized. For example construction likely would include disturbing the subsoil below 10 feet. Air quality in a future basement on the site could be affected by existing contamination. Exposure to workers, even from such things as landscaping, may not be adequately addressed because of exposures to vapors accumulating in fill material and holes on the site. The CAG expects to see substantial revisions to the risk assessment based on comments from the EPA and the State of Iowa.
- c. Will construction and utility workers working in the sub-soil off-site be exposed to former MGP contaminants? Potential exposures to utility workers are not adequately addressed in the risk assessment and should be added.

- d. Future development activities on the site are not known. The risk assessment does not adequately cover the potential scenarios for future use of the property.
- e. Lead contamination is a continuing source of concern to the CAG. This removal action does not cover lead contamination associated with the Allied Steel operations where the target cleanup level apparently was 3,840 mg/kg. Will lead concentrations be used to determine potential future land use scenarios? Based on the Region 3 risk based screening levels (10/27/99 release) specific values are not listed for lead (blood-lead modeling is used for evaluating lead exposure), but the EPA Office of Solid Waste uses the level of 400 mg/kg as a value for residential use. Three lead concentrations from surface soil samples were above 400 mg/kg (highest was SB-11 with 1,470 mg/kg lead). This should be covered in the risk assessment.
- f. Although PCB contamination may not be directly related to the FMGP, how will clean up of this these contaminants be addressed at this location?

The CAG members agree with the following additional comments on the risk assessment discussed by Michelle Wei of the Iowa Department of Public Health.

- g. The background levels used in the risk assessment appear to be maximum off-site contaminant concentrations and may not be representative of actual background levels. The CAG is concerned that this will lead to the risks at the site appearing too low.
- h. The CAG agrees that a table of the background concentrations for Chemicals of Potential Concern (COPCs) should be added to the risk assessment.
- i. The air monitoring results include benzene and chemicals that may be related to the site. This needs more investigation.
- j. The CAG appreciates that Ms Wei has the experience to find numerical errors such as the inhalation cancer slope factor (CSF) for 1-1 dichloroethylene. The CAG hopes that all potential errors like this are checked. Also, the CAG realizes that it is important to verify the use of appropriate numbers for calculating chronic daily intake values. For example, the inhalation rate for on-site workers was too low and may cause risks to appear too low, i.e. a hotel worker should not be expected to have a resting inhalation rate. The CAG hopes that all numerical values are checked for appropriateness.
- k. The CAG agrees that grass and gravel cover will not provide complete protection from contaminant vapors and dust. Also, grass and gravel cover is not complete in all areas.

- l. The CAG agrees that construction workers may also be exposed to vapors from contaminated groundwater as they work in the subsurface soils. This should be considered in the risk assessment.
- m. The CAG agrees that PAH dermal exposure (exposure through skin) should be a part of the quantitative risk assessment because PAHs are potential causes of skin cancer. Leaving this out of the risk assessment may cause the risk to appear too low.
- n. The CAG agrees that 60 work days of snow cover does not seem realistic for the Clinton area.

5. POTENTIAL FUTURE AVENUES OF ESCAPE OF CONTAMINANTS

The CAG is concerned about potential future avenues for escape of contaminants from the site including sewers, current and former sloughs, and flood events. This should be monitored in the future.

- a. The CAG is concerned that offsite contamination, especially to the west of the site, needs to be fully characterized and discussed in the site characterization. How will potential commingling or mixing of contaminants from different sources (such as gasoline from underground storage tanks) be addressed? Gasoline constituents can enhance the mobility or spread of PAHs and other chemicals. This should be discussed more completely.
- b. The CAG is concerned about adequate characterization of contaminants near the sewer lines and swimming pool including earlier sampling that showed waste oil near the swimming pool. Two recent sampling points, SB-26 and MW-33 may have shown indications of contamination near the old sewer system. High PAHs for MW-33 (<10 depth) were not discussed. High levels of PAHs at SB-26 at the 20-50 foot level might show a potential escape route for contaminants from the sluice pond to the sewer system. Some CAG members think isolated findings like this might be anomalies while others think it might be an indication of serious contamination. Because these are potential escape routes for the contaminants, additional sampling and monitoring may be needed as part of the plan to clean up the site.
- c. High cyanide was found on the residential property near 3rd Ave N. and 2nd Ave. N. slough pit. Further testing should be done behind the residence.
- d. The remedy for this site should anticipate flooding and long periods of high water when contaminated water could migrate into other parts of the city. What steps will be taken to protect residents in the event that flooding of the site occurs?
- e. Because of the presence of coal tar in the subsurface soil, it is possible tar deposits will migrate to the soil surface in the future. Does this pose a significant health

risk under future land use scenarios or is it primarily an aesthetic consideration?
What measures have been used at other MGP sites to avoid this problem?

6. ADDITIONAL GENERAL COMMENTS

- a. In general the CAG felt like the report was not written in a format that is easy to understand. The CAG realizes the report is very technical in nature, but all efforts should be made to make it clear and understandable.
- b. The appendices with analytical data need keys to explain abbreviations.
- c. Appendix W – Toxicity profiles is incomplete. It does not have profiles for all of the chemicals of potential concern including benzene.