



Response to Comments & Recommendations

Project: Former Hilton-Davis Chemicals Site

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Ohio EPA held a public hearing on February 25, 2010 relative to the "Statement of Basis for Corrective Measures at Hilton Davis Cincinnati Ohio". The public comment period commenced on January 25, 2010 and continued through March 26, 2010. This document summarizes the comments and questions received at the public hearing and during the associated comment period.

Ohio EPA reviewed and considered all comments and recommendations received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

Provided within this document are responses to questions, comments, and recommendations received during the hearing and comment period pertinent to Ohio EPA's proposed remedies for the site. The comments received are all numbered and followed by Ohio EPA's responses. Some comments, especially those received from several different commenters, have been summarized and are not quoted word-for-word. The comments are also categorized into appropriate subject headings for reference.

Comments from Dr. Henry Cole, submitted on behalf of Concerned Citizens about Hilton-Davis (CCHD)

Comment #1:

Ohio EPA's proposal fails to comply with critical mandates contained in the 1986 Consent Decree (CD). The CD instructs Ohio EPA to give top priority to remedies (a) that *minimize or eliminate the potential for release of hazardous wastes and constituents into the environment* and (b) that *provide the greatest improvement to public health, welfare and environment*. The Kodak-Ohio EPA proposal offers at best scant, short-term protection; that the foot and a half cover thickness proposed for the ravine will erode over time and is guaranteed to fail over time, along with not meeting the minimum requirements for cover systems installed at municipal solid waste landfills.

Response to Comment #1:

The consent decree requires Ohio EPA to select the corrective action to be implemented at the facility based upon five considerations (see page 12 of the consent decree and Appendix A, Task 16). These are reliability, implementability, effects of an alternative, safety requirements, and cost. Ohio EPA used all five considerations in selecting remedial alternatives including the three criteria not mentioned within the comment; implementability, safety requirements, and costs.

Ohio EPA views the existing cover as one element of the proposed remedial alternative of containment for the AOI C-Main Ravine Landfill. The additional elements of the containment approach include the PGCS, IEC, ground water and soil-gas monitoring, along with institutional controls addressed through the Environmental Covenant. In this instance, the routes of exposure have been controlled to protect human health and the potential for contaminant migration is minimized to be protective of the environment.

Ohio EPA views the proposed remedy of containment as a remedial alternative required to be maintained and operated for the long term (30 years or more). As long as the selected remedies are properly maintained Ohio EPA views these as meeting the remedial response objectives and being protective of human health and the environment.

Regarding the comment that the proposed remedial alternative of using the current cover is inadequate because it does not meet the minimum requirements for cover systems installed at municipal solid waste landfills, Ohio EPA agrees that the proposed cover would not meet minimum requirements for solid waste landfills. However, in the Statement of Basis (see excerpt from Section 15.1 of the Statement of Basis provided below) Ohio EPA explains why the proposed

cover, not an engineered cover system, would be an appropriate remedy at the former Ravine Landfill:

“Ohio EPA considered requiring a new cover be designed and constructed to meet standards of new covers, including to prevent infiltration of rain water. Ohio EPA decided this was not necessary because the Human Health Risk Assessment shows that the existing cover is effective in preventing the exposure due to inhalation, ACLs for ground water are being met at the point of compliance, and the IEC and PGCS prevent the off-site migration of contaminated ground water. Additionally, the requirements for new covers are not directly applicable to a corrective action unit, would require additional cost and would result in safety and exposures associated with construction activity.”

In summary, there is no additional benefit toward protection of human health and the environment that would be gained by requiring an engineered cover system. The primary purpose of an engineered cover system is to prevent infiltration. In this case infiltrated water is being controlled by the interim ground water remedial alternatives, the ground water resource is not used for drinking water, and ACLs are not exceeded.

Comment #2:

Ohio EPA’s proposal adopts Kodak’s rigid deed restriction that would restrict the site’s future solely to industrial use despite strong opposition from the public and public institutions including the Pleasant Ridge Community Council and the Cincinnati City Council. The plan would eliminate the opportunity for residential development and many commercial uses of value to the community. Satellite views clearly show that the site’s surroundings are overwhelmingly residential. Ohio EPA’s proposal based on rigid deed restrictions and substandard “cleanup” will clearly discourage developers. Thus, when the chemical plant finally closes, the 80-acre site is likely to wind up as a dangerous abandoned lot in the heart of the City of Cincinnati.

Response to Comment #2:

As indicated in the Statement of Basis, reasonably anticipated land use at this site was a key consideration in determining the appropriate remediation goals. The Statement of Basis summarizes the extensive process Ohio EPA undertook to assess the future anticipated land use. Representatives of CCHD, along with the various site stakeholders, were involved in the process, the associated discussions and provided comment on the approach. The combined vision of a majority of the site stakeholders was that future use of the property would remain industrial and that it would be highly unlikely that the property would at any time in the future be utilized for any use other than industrial. The selected remedies are protective of an industrial use and an institutional control is required to ensure that the industrial use scenario of the land is maintained and to prevent risks due to on-site residential exposures.

The institutional control Ohio EPA is requiring is an environmental covenant under Ohio Revised Code Sections 5301.80 to 5301.92. An environmental covenant serves to impose an activity and use limitation on the property. Two principal purposes are served by an environmental covenant. First, the covenant will ensure the land use restriction will be reflected on the land records and be effectively enforced over time. Second, an environmental covenant will ensure that the property remains in the stream of commerce by offering a clear and objective process for its creation, modification or termination, thus encouraging transfer of ownership and property re-use.

While each environmental covenant is site-specific, industrial land use at a site may include, but is not limited to, facilities which supply goods or services to the public and facilities that manufacture or assemble goods. Examples of commercial and industrial land uses include, but are not limited to: chemical manufacturers; warehouses; building supply facilities; repair and service establishments; professional offices, retail businesses selling food or merchandise; parking facilities; personal service establishments; manufacturing facilities; assembly plants; and limited access highways.

Comment #3:

Hilton Davis disposed of volatile organic compounds (VOCs) in the Ravine Landfill and other parts of the site over many decades. These VOCs include cancer causing agents (carcinogens) such as benzene and tetrachloroethylene. Volatile liquids such as solvents readily evaporate into air spaces in soil. They can infiltrate into buildings through cracks in basement floors and slabs in a process known as vapor intrusion. If uncontrolled such vapors could expose building occupants to toxic VOCs and may restrict or increase the costs of constructing new buildings on the site. Although the Agency finally acknowledges the need for soil gas monitoring, the testing it requires as part of its proposed remedy is inadequate: (a) the soil vapor survey is restricted to areas of existing buildings but would not cover potential future building sites; and (b) the requirement comes too late to affect the choice of remedies for the Ravine and other parts of the site.

The Consent Decree requires Ohio EPA to give first preference to “source reduction” technologies such as SVE that can prevent releases and exposure. The Agency should revise its remedy selection accordingly.

Response to Comment #3:

The objective of the human health risk assessment conducted for the site was to quantify the increased risk due to exposure to non-carcinogens, and either carcinogens, or suspected carcinogens, determined to be present within soil, soil pores, and underlying ground water. A portion of the risk assessment quantifies current risk due to vapor intrusion for all existing buildings on site, the results of which determined that such risks were negligible for the on-site indoor worker.

Furthermore, the required Remedy Implementation Work Plan, along with the operation and maintenance (O&M) program, will ensure that the potential for vapor intrusion is evaluated, including risk assessment, soil gas sampling if necessary, and consideration of appropriate mitigation technology, during design of any new buildings proposed for future construction on the site. Ohio EPA will also require that the upcoming Remedy Implementation Work Plan include a vapor intrusion awareness program so that site workers are aware of this potential hazard.

Ohio EPA's proposed remedy for the former Ravine Landfill is containment, which applies to soil, soil gas, and ground water. Therefore, the objective of the containment remedy must be to restrict the migration of contaminants present within soil, soil gas, and ground water. The current cover, along with ground water extraction and collection systems, will restrict such migration. In order to determine if soil gas is properly contained within the limits of the former Ravine Landfill, a monitoring program will be a component of the Remedy Implementation Work Plan required by Ohio EPA. This approach is consistent with that suggested in U.S. EPA Directive No. 9355.0-49FS, EPA 540-F-93-035 "Presumptive Remedy for CERCLA Municipal Landfill Sites."

Ohio EPA does not agree that the consent decree requires Ohio EPA to give first preference to "source reduction" technologies. Task 12 a.2. Considerations to be used in initial screening, of the consent decree states that when conducting initial screening of remedial alternatives source control alternatives shall achieve adequate control of source materials. Although this criterion is meant to be applied during initial selection, it may be considered throughout the process of selection. Task 16 provides the five considerations Ohio EPA is to use when selecting preferred remedial alternatives for the site. Ohio EPA views the selected remedial alternatives for the Ravine Landfill (ground water extraction and cover) to be source control measures and also views these as providing adequate control of the source materials.

Comment #4:

Hilton Davis dumped large quantities of toxic chemicals into the Ravine and other areas that had no bottom liners. These chemicals seeped into the ground water. The VOCs that off-gas from ground water contribute to the vapor intrusion problem discussed in Comment #3 above.

Ohio EPA's proposal accepts Kodak's plan to use its current pump and treat systems as the final remedy for the site's contaminated ground water. Designed to prevent off-site migration, these systems are highly ineffective at reducing the burden of toxics in ground water and the problem of vapor intrusion on the site. Secondly, the Agency's plan does not specifically require that Kodak install off-site monitoring wells to determine whether contamination is moving into residential neighborhoods beyond the fence lines.

While pump and treat systems can take many decades to reduce concentrations of volatile organic compounds in ground water, dual phase systems attack VOCs at their source. This technology will reduce VOC levels in ground water far more rapidly than Kodak systems and reduce the risks associated with off gassing and vapor intrusion. The Consent Decree requires that Ohio EPA give this approach first preference.

Response to Comment #4:

The effect of VOCs volatilizing from ground water to soil gas to indoor air has been fully evaluated during the risk assessment. It found that for buildings on site, the risk to indoor workers due to vapor intrusion from ground water is within acceptable health- based exposure concentrations.

Pump and treat is an effective remedy because it actually removes contaminated ground water so that it is not available to migrate off site or allow contaminants to volatilize into soil gas. Dual phase extraction was considered as a remedial alternative for AOIG (MW-37 area) but was found that it would not be effective due to the low permeability of surrounding soils. Investigation at the Ravine showed that the low permeability of the fill would prevent vapor extraction technology from being effective there as well. Ground water monitoring at the site perimeter indicates that concentrations remain below the regulatory limits required, which were developed considering the risk due to vapor intrusion. If at any time concentrations exceed regulatory limits at the site perimeter, Ohio EPA would then require NPEC to perform an off-site investigation, along with requiring an evaluation and subsequent implementation of additional corrective measures.

Comment #5:

Dr. Cole expressed concern with lack of off-site testing, lack of removal of excess lead, lack of removal of waste in ravine and decision not to remove source contaminants in ground water.

Response to Comment #5:

Ohio EPA has not required off-site investigation of ground water because ground water monitoring at the site perimeter indicates that concentrations are below the established alternate concentration levels (ACLs) determined to be protective of human health. If at any time concentrations detected by the ground water monitoring program were to reveal exceedances of the established ACLs at the site perimeter, Ohio EPA would then require NPEC to perform an off- site investigation, along with requiring an evaluation and subsequent implementation of additional corrective measures. Ohio EPA considers the proposed ground water extraction and collection systems (both the IEC and PGCS) as an effective source removal and control technology.

Partial removal of sub areas containing lead within the ravine was considered because the lead in soils presents a direct contact hazard. The remedial alternative of containment, including a cover, is an equally effective method of preventing direct contact exposure. Since containment is considered reliable and

provides adequate protection of public health, and is also a lower cost alternative, in accordance with the remedy selection considerations stipulated within the consent decree, it was proposed by Ohio EPA as the final remedy alternative rather than partial excavation.

Comment #6:

Dr. Cole expressed a concern that the lack of accounting for the cost of maintaining the proposed ground water system as outlined in the CMS is not addressed if Kodak (NPEC) goes out of business or if the current manufacturing facility does not handle the waste water treatment anymore.

Response to Comment #6:

The cost of maintaining the ground water system has been estimated within the Corrective Measure Study Report, and has been reviewed and approved by Ohio EPA. As a component of the final remedy for the site Ohio EPA will require the responsible parties to provide financial assurance which guarantees that any remedial alternatives selected will be operated and maintained for as long as necessary, even if the site operator were to cease active operations at some future time at this location. Review of NPEC's financial assurance mechanism will occur in conjunction with the agency's evaluation of the Remedy Implementation Work Plan.

Comment #7:

Dr. Cole's expressed concern that Ohio EPA is relying upon City of Cincinnati's classification of the area as an industrial zone, as an excuse to allow the site to become designated as industrial use only into perpetuity.

Response to Comment #7:

Please see Ohio EPA response to Comment #2 above.

Recommendations of Dr. Henry Cole, submitted on behalf of Concerned Citizens about Hilton-Davis (CCHD)

Dr. Cole has provided CCHD with a "Five Point Plan" which members of the community have expressed as a preferred alternative to the plan proposed by Ohio EPA. The plan and its recommendations are provided below along with Ohio EPA's responses.

Recommendation A:

Comply with the Consent Decree. Dr. Cole asserts that the proposal within the Statement of Basis fails to comply with the critical mandates contained in the 1986 consent decree, which instructs Ohio EPA to give top priority to remedies (a) that minimize or eliminate the potential for release of hazardous wastes and constituents into the environment and (b) that provide the greatest improvement to public health, welfare, and environment.

In order to meet the requirements of the 1986 consent decree for the Hilton-Davis site Ohio EPA should revise its proposal (January 2010 Statement of Basis) and undertake the following:

1. Retain an independent contractor(s) to conduct a technology-focused Remedial Investigation for all Areas of Concern located in the Bloody Creek Ravine. This report should be based on additional field investigation, sampling and analysis to include:
 - i. A comprehensive study of vapor in soil, waste, and fill based on soil vapor probes with active collection of vapor (such as employed for Building 21) and dynamic field permeability testing based on pneumatic testing;
 - ii. A NAPL (non-aqueous phase liquid) investigation for ground water in the immediate vicinity of the ravine using state of the art methods including the soil vapor investigation to locate areas of NAPL;
 - iii. Additional boreholes with sampling and analysis in order to fill the vertical and horizontal gaps in coverage identified (later) in these comments;
 - iv. A recalculation of risks based on the results of the additional investigations (i,ii,iii) and updated risk quotients and slope factors from the Integrated Risk Information System (IRIS)

In addition, Dr. Cole recommends that the independent contractor be directed to install an extensive network of off-site ground water monitoring wells to determine whether contamination originating from the site has migrated beyond the site's property boundary.

Response to Recommendation A:

In response to the comment that Ohio EPA's decision does not comply with critical mandates of the consent decree, please see Response to Comment #1.

In response to a recommendation to retain an independent contractor(s) to conduct a technology-focused Remedial Investigation for all Areas of Concern located in the Bloody Creek Ravine, Ohio EPA had previously received a request of this nature from Dr. Cole and responded accordingly. During the course of Ohio EPA's oversight of RCRA corrective action activities, independent third party contractors are not normally hired directly by Ohio EPA to perform work, rather it is the responsibility of the owner and/or operator of the facility. In the case of Hilton Davis, pursuant to the consent decree, the company's consultant, Conestoga Rovers Associates (CRA), was selected by Ohio EPA. Ohio EPA has been fully engaged throughout the remediation process and has both the regulatory authority, along with technical expertise, to appropriately apply state requirements during the course of overseeing the corrective action activities stipulated within the consent decree.

In recommendation paragraph A.1.i. above, CCHD seeks a comprehensive study of vapor in soil, waste and fill based on soil vapor probes with active collection of vapor (such as that already employed for Building 21) and dynamic field permeability testing based on pneumatic testing. Ohio EPA had previously responded to the concern raised in this comment within the Agency's March 20, 2008 Notice of Deficiency and Responsiveness Summary related to NPEC's November 20, 2006 Draft Corrective Measures Study (CMS) Report (see Part A 2. The Ravine). Ohio EPA does not agree that sampling soil gas is necessary to provide an assessment of risk for the vapor intrusion exposure pathway at the Ravine Landfill. Modeling has been conducted using soil and ground water data. The results of this effort indicate that risk due to vapor intrusion does not exceed the risk goals established for the site.

Ohio EPA has required additional investigation which included soil sampling and analysis to determine if the average characteristics of the waste fill within the former Ravine Landfill would either prevent or promote further consideration of the applicability of soil vapor extraction (SVE) technology to this area. Ohio EPA does not agree that further feasibility study beyond what has been conducted is necessary to determine if SVE is a viable remedial alternative for the Ravine Landfill. Ohio EPA had previously responded to the concern raised in this comment within the Agency's March 20, 2008 Notice of Deficiency and Responsiveness Summary related to NPEC's November 20, 2006 Draft Corrective Measures Study (CMS) Report (Part B 1.2) stating that:

"Based on the data gathered, Ohio EPA concludes that the physical properties of the waste within the landfill include high organic carbon content, low permeability, and high moisture content, in addition to the waste being of a heterogeneous nature. Therefore Ohio EPA has concluded that the physical characteristics of the waste prevent SVE from being considered a practical remedial alternative for the former ravine landfill."

As to the recommendation within paragraph A.1.ii., in which Dr. Cole, on behalf of CCHD, recommends further investigation to determine if NAPL (non-aqueous phase liquid) exists within the saturated zone in the vicinity of the former Ravine Landfill, Ohio EPA had previously responded to this comment within its March 20, 2008 Notice of Deficiency and Responsiveness Summary related to NPEC's November 20, 2006 Draft Corrective Measures Study (CMS) Report (see Part A 2. The Ravine).

Ohio EPA is satisfied that the ground water investigation within the approved remedial investigation (RI) report, in conjunction with historical monitoring activities conducted to date, have adequately determined the nature and extent of ground water contamination needed to support the Corrective Measure Study (CMS) and ultimately meet the requirements within the consent decree. During the course of conducting site-wide ground water monitoring the presence of NAPL has not to-date been detected.

Within paragraph A.1.iii., Dr. Cole recommends that additional boreholes with sampling and analysis be conducted at the ravine in order to fill the vertical and horizontal gaps in coverage as identified in the comments.

All areas of the site have been investigated to Ohio EPA's satisfaction during the course of the remedial investigation for the site. Completion of the remedial investigation was approved by Ohio EPA on June 9, 2001. As to specific areas referenced, the area near RC2 generally was not filled, has already been investigated and was assessed within the CMS as AOI J (AOI 61, 74, 90). Ravine area #3 was investigated thoroughly with RL 14a, 14b, 14c, RL 16a, 16b, 16c, and RC 9, and SBH-213 and was assessed by being grouped with AOI C. The area surrounding building 41 was investigated in both the remedial investigation and the AOI work plan and was grouped with AOI C. The results of analysis for all areas combined into AOI C are representative of ravine area #3, and the area near building 41.

Within paragraph A.1.iv., Dr. Cole recommends a recalculation of risks based on the results of the additional investigations and updated risk quotients and slope factors from the Integrated Risk Information System (IRIS).

Ohio EPA has thoroughly reviewed the risk assessments for the site contained within the Corrective Measures Study (CMS) reports. Any concerns or deficiencies that were found during review have been provided to NPEC within Notices of Deficiency and were adequately addressed by the company by submitting revisions to prior versions of the CMS report.

Finally, Dr. Cole recommends that an independent contractor be directed to install an extensive network of off-site ground water monitoring wells to determine whether contamination from the site has migrated beyond the property boundary. Task 3- (Site Investigation) of the consent decree required the determination of the horizontal and vertical extent of any plumes originating from the facility. The results of this investigation were submitted to site stakeholders in November of 1998. As part of the investigation, additional consideration was given to any locations along the property boundary where there was an indication that contaminated ground water was migrating off-site. It was determined that no contamination above ACLs was found to be migrating to off-site locations. The conclusions in this regard were found acceptable to Ohio EPA and our position remains that no further investigation is required. Routine ground water monitoring of the area north of AOI-G (MW-37) and south of AOI-C- Main (the Ravine) has been conducted for a number of years. Long-term ground water monitoring of the site will be a component of the final remedy selected by Ohio EPA.

Recommendation B:

Allow future land uses that benefit the community. Dr. Cole stated that the Consent Decree's criteria for a remedy which provides the greatest levels of protection and greatest public benefit would result in a cleanup that allows for the site to be redeveloped in a manner that is consistent with the current trends in

the community's vision for the future. In addition, it's requested that Ohio EPA establish a multi-party process to discuss and encourage the future redevelopment of the Hilton-Davis Site in a manner that is beneficial to the greater Pleasant Ridge community, and the City of Cincinnati. The requested process should include CCHD (and its participants), the PRCC, Kodak, Ohio EPA, the company operating the chemical plant, potential developers and other key stakeholders.

In addition, Kodak should not be allowed to dictate future use and redevelopment options for the foreseeable future. Therefore, it is requested that Ohio EPA require Kodak to revise its current deed restrictions as the above-noted recommendations, if adopted by Ohio EPA, are implemented.

Furthermore, it is requested that Ohio EPA continue its policy of allowing CCHD, PRCC and their technical representative to review drafts of all study protocols, work plans, and draft reports

Response to Recommendation B:

Regarding CCHD's request to conduct a corrective measure study considering future residential development opportunities for the site, see generally Ohio EPA Response to Comment #2 above. Ohio EPA's decision to require the risk assessment and corrective measure study assuming a future use of the site consistent with past and current land use, that being industrial use, was approved by Ohio EPA as part of the corrective measure study work plan on July 11, 2002. Representatives of CCHD, along with the various site stakeholders, were involved in the process and associated discussions and provided comment on the approach prior to this approval. At that time the combined vision of a majority of the site stakeholders was that future use of the property would remain industrial and that it would be highly unlikely that the property would at any time in the future be utilized for any use other than industrial.

Regarding CCHD's concern that NPEC has already placed use restrictions on the deed which will discourage future development, these are not recognized as enforceable to Ohio EPA. Use restrictions enforceable to Ohio EPA will be embodied within the Environmental Covenant established in conjunction with the final remedy selection.

Consistent with past practice during prior stages of consent decree-related activities, Ohio EPA will continue to accept CCHD's input on all work plans and reports received for review during the upcoming remedy implementation phase of this project.

Recommendation C:

Use proactive technologies to reduce ravine wastes, toxic fumes, and ground water contamination sources. Dr. Cole requests that an independent contractor(s) conduct a focused Corrective Measures Study (CMS) and technology re-evaluation based on the findings of the ravine-focused RFI

requested in Comment #1 above. Such study should, at a minimum, the following technologies for the ravine:

- a. Soil Vapor Extraction to reduce risks associated with vapor intrusion for present buildings and those that may be built in the future;
- b. Multi-Phase Vacuum Extraction to reduce concentrations of volatile organic compounds present in ground water and NAPL in the proximity of the ravine;
- c. Partial Excavation of lead-contaminated portions of the ravine

Response to Recommendation C:

Soil vapor extraction, multi phase extraction, and partial excavation were considered as remedial alternatives for the ravine landfill and studied in detail within the CMS. The CMS contains pertinent details of the studies and the Statement of Basis provides an explanation why these technologies were not proposed as remedial alternatives. See Response to Recommendation A above for additional detail.

Recommendation D:

Require Kodak to set aside a substantial trust fund to pay for future cleanup costs. Such fund should be large enough to implement:

- a. the final remedy selected by Ohio EPA
- b. to remediate additional corrective measures needed to repair damages to remedial structures;
- c. to install any ancillary measures needed to protect public health and the environment
- d. to conduct additional remediation required to facilitate a change in future land use

Response to Recommendation D:

Responsible parties for the site will be obligated to satisfy Ohio EPA's financial assurance requirements, the objective of which will be to provide a financial mechanism to fund initial remedy implementation, along with long-term operation, maintenance, and monitoring activities associated with each of the selected remedial alternatives for as long as they are necessary, even if the current site operator ceases production activities at the site. It is not appropriate at this time for Ohio EPA to speculate as to either the future need for, or associated cost of, providing ancillary measures or conducting additional remedial measures.

Recommendation E:

Require Kodak to develop a viable backup plan for the treatment of contaminated ground water. Should the company operating the plant (current or future operator) have a plan in place which addresses how contaminated ground water would be treated in the event of any of the following scenarios:

- a. closure of the plant;
- b. closure of the on-site wastewater treatment plant;
- c. the current or future plant operator were to stop allowing NPEC to use its wastewater treatment plant.

Response to Recommendation E:

NPEC, or any subsequent successor in interest of this property will be legally bound by the consent decree and the remedial alternatives selected by Ohio EPA, regardless of the availability of the on-site waste water treatment facility.

Comments/Concerns Expressed by Members of the Community At-Large

Comment #8:

Community representatives assert that Ohio EPA has ignored the communities' concerns and the plan does not comply with the terms of the 1986 Consent Decree. Ohio EPA should require a cleanup that meets the standards laid out in the Consent Decree, which called for methods that:

- a) Provide the greatest improvement to the public health, welfare, and environment; and
- b) Minimize or eliminate the potential for release of hazardous wastes and chemicals into the environment

Response to Comment #8:

Task 16 of the consent decree states that five considerations shall be used as the basis for Ohio EPA's selection of remedial alternatives for the site. These considerations consist of the following: reliability, implementability, effects of an alternative, safety requirements, and cost. Ohio EPA has applied all five of the considerations included within the selection criteria in our evaluation and subsequent selection of the final remedial alternatives. For example, excavating parts of the former Ravine Landfill would trigger safety concerns and requirements to be addressed for minimizing exposures of on-site and off-site receptors, would be more difficult to implement, and would not be the lowest cost alternative. Also, this alternative (partial excavation) is no more protective than

the containment strategy since the containment strategy also prevents exposures to on-site and off-site receptors. Therefore, either partial excavation or containment offers similar protection of human health and the environment. In both cases, routes of exposure have been controlled to protect human health and migration is contained to protect the environment.

Comment #9:

Ohio EPA proposed remedies will allow only for certain types of industrial development on property situated in the midst of a residential community. Furthermore, Ohio EPA proposed remedies forego potential tax revenues to City of Cincinnati by restricting future land use opportunities to solely that of industrial activities.

Response to Comment #9:

The decision to allow NPEC to conduct the risk assessment and perform the corrective measure study relying on the assumption that future development on site would not include residential land use was arrived at by Ohio EPA only after review of the consent decree requirements, extensive discussions with site stakeholders, referencing relevant U.S. EPA guidance, and researching other decisions made on sites similar in nature within the State of Ohio.

The assumption that future use of the site will remain consistent with past and current land use, that being industrial, was approved by Ohio EPA as part of the corrective measure study work plan on July 11, 2002. Representatives of CCHD, along with the various site stakeholders, were involved in the process and associated discussions and provided comment on the approach prior to this approval. At that time the combined vision of a majority of the site stakeholders was that future use of the property would remain industrial and that it would be highly unlikely that the property would at any time in the future be utilized for any use other than industrial. Also see Ohio EPA Response to Comment #2 above.

Comment #10:

Community residents expressed concern that rather than requiring a cleanup that the citizens and all people around that site deserve Ohio EPA has selected the cheapest remedy alternative in favor of Kodak.

Response to Comment #10:

The remedial alternatives proposed by Ohio EPA in the Statement of Basis are protective. The consent decree requires cost to be considered. Specifically, "Whenever two or more alternatives are identified as meeting the remedial response objectives, set forth in R.C. 3734.20, the lowest cost alternative that is technologically feasible and reliable and which effectively mitigates and minimizes damage to and provides adequate protection of public health, safety, or the environment will be the selected alternative." (Consent Decree XI.(A) Corrective Action, at page 14, see also Appendix A, Task 16e)

Comment #11:

Community residents expressed concern that either Kodak or Emerald- Hilton Davis will eventually go bankrupt and the site will at some point in future become an abandoned property or that the on-site wastewater treatment system which is relied upon to treat contaminated ground water, will cease to operate, therefore public resources would eventually be needed to address any remaining contamination.

Response to Comment #11:

The cost of maintaining the ground water system has been estimated within the Corrective Measure Study Report and has been reviewed and approved by Ohio EPA. As a component of the final remedy for the site, Ohio EPA will require the responsible parties to provide financial assurance which guarantees that any remedial alternatives selected will be operated and maintained for as long as necessary, even if the site operator were to cease active operations. Review of NPEC's financial assurance mechanism will occur in conjunction with the agency's evaluation of the Remedy Implementation Work Plan.

Comment #12:

CCHD representatives stated that enactment of the 1986 Consent Decree resulted in a complete and thorough cleanup of the lagoons, cleanup to the highest standards to which they expect for the rest of the site, including the Bloody Run Creek Ravine (Ravine landfill).

Response to Comment #12:

Remedial alternatives for each of the areas of interest (AOIs) are chosen based on information specific to each AOI on a case-by-case basis, such as applicable regulatory standards, setting, geology, evidence of release, nature of contamination, and potential alternatives. As far as the remedial alternatives chosen for addressing the lagoons, all waste water, sludge, and some liner material was removed, however not all contaminants present within underlying soil and ground water were removed. Due to residual contamination remaining, a cover system, land use restriction, and long-term ground water monitoring were necessary.

In the case of the Ravine, several alternatives were considered based on volume of waste, surrounding geology, extent of release to ground water, interim measures in place, along with types of contaminants. Rather than removal, containment was selected, which similar to the lagoon closure requires a cover, ground water monitoring, deed restriction, and long-term inspections. In other words in both the case of the lagoons and Ravine the final required remedial alternatives are similar.

Comment #13:

Several comments expressed concern that OEPA has had a rather reactive stance in that it waits for the company to provide data, it waits for the company to make recommendations, and has made very little changes to a plan that was

proposed by Kodak. Furthermore, concern was expressed that Ohio EPA's evaluations, decision making, and conclusions on this site are based on testing conducted by Kodak. In addition, a number of citizens questioned why Ohio EPA's proposed plan is pretty much the same as the recent plan submitted by NPEC.

Response to Comment #13:

In the case of the Hilton Davis site, Ohio EPA entered into a legal agreement (the 1986 consent decree) which requires site owners and operators to conduct a full investigation, study potential remedial alternatives, and propose final remedy alternatives. The process which has continued over the last 24 years has been very iterative in nature, requiring ongoing communication of all site stakeholders. It has required Ohio EPA and CCHD representatives to review many important technical documents including plans, proposals, reports, each being submitted by company officials and their consultants to comply with applicable portions of the consent decree, along with conforming to available guidance in situations where the consent decree is not explicit. Throughout the process company submittals have been reviewed and compared to any applicable guidance, standards or relative requirements within the consent decree. Ohio EPA has followed the process within the consent decree which has led the company to propose final remedial alternatives. After requiring the company to provide additional information, and after careful consideration of all the available information, including the input of CCHD, Ohio EPA has found that the selected remedial alternatives are protective of human health and the environment.

Comment #14:

A community resident voiced concern that Ohio EPA's approach to this problem has been very scientific and very narrow-sighted without taking a little bit of common sense into consideration. "So I'm concerned that the approach and the focus, while scientific and rigorous, is narrow in its scope."

Response to Comment #14:

Ohio EPA makes its decisions based on scientific data, reports, and comparison to standards based in the consent decree, applicable rules, and relevant guidance.

Comment #15:

Residents also expressed concern that Ohio EPA's approach doesn't seem to take into consideration what happens beyond 30 years post closure care.

Response to Comment #15:

In the case of post-closure requirements which are applicable to the location of the former lagoons, the post-closure rule requires Ohio EPA to determine, based on review of data compiled during the post-closure care, maintenance, and monitoring period, if post closure care should be extended or whether such activities may be discontinued. Until the initial post-closure period nears the end

of the 30 year term, it would be speculative for Ohio EPA to comment on such future decision.

Comment #16:

A commenter expressed concern that since one of the hot spots is covered by asphalt that the asphalt will degrade over time allowing additional releases of volatile compounds to seep up through the cap.

Response to Comment #16:

Ohio EPA requires that remedial alternatives be operated and maintained to meet their objectives. In this case the cover must prevent direct contact exposures and volatile releases for its entire life period. The company is required to develop an operation and maintenance plan which will be subject to review and ultimate approval by Ohio EPA. The plan to be followed will require the company to document inspections to look for conditions of deterioration, and repair or replace the cover as necessary so that it performs as intended.

Comment #17:

A local resident stated that he believes there's an opportunity to use the land at the site in a more productive fashion and recommended that Ohio EPA mandate that every square foot of this property that will support a tree have a tree planted so that those trees may sequester carbon and produce oxygen during the next 20 years of debate on what to do at this site.

Response to Comment #17:

Ohio EPA appreciates this comment but does not view such an approach as an effective means for achieving the remedial response objectives as required for any final remedy selection for the AOIs. Ohio EPA can only encourage companies and individuals to plant more trees to reduce carbon dioxide and increase oxygen production. As to the duration of consent decree-related activities, in accordance with the consent decree, after selecting the remedial alternatives to be applied at the site, only two additional steps remain, which are NPEC's submittal of a Remedy Implementation Work Plan, subject to stakeholder review and approval, followed by remedy implementation. Ohio EPA doesn't envision that the process of remedy work plan review and subsequent approval, followed by initial remedy implementation activities, will require more than a few years to complete. However, long- term maintenance and monitoring activities associated with the final remedies will likely involve long- term stewardship, along with perpetual care, to be conducted by the owners of this property.

Comment #18:

A member of the local citizens group asked if the proposed plan calls for the removal of any toxic waste from the ravine.

Response to Comment #18:

The proposed remedy for the ravine landfill does not call for further removal of any solid waste or contaminated soil from this AOI. However the selected remedy of containment involves ongoing removal of contaminated ground water from within the ravine, along with capturing and controlling ground water both from within, as well as down-gradient of, the ravine, thus removing contaminated ground water and prohibiting migration to offsite.

Comment #19:

Residents questioned whether or not the proposed plan would result in removal of any toxic fumes from the ravine.

Response to Comment #19:

The proposed remedy requires that the layer of clay cover material currently on top of the ravine landfill be maintained, inspected, and repaired as necessary to continue to prevent any vapors containing volatile compounds from escaping, thus serving to minimize exposures for both on-site and off-site receptors.

Comment #20:

A resident asked who would be responsible for paying for additional cleanup required in the event that sometime in the future someone would want to develop the property for something other than industrial use?

Response to Comment #20

It would depend on circumstances associated with the re-development proposal. Many times developers, site owners or operators, along with local and state governments, gain access to resources (e.g., monetary incentives, grants, loans, tax breaks, etc.) to encourage redevelopment of land. For instance, Ohio's Brownfield Revitalization Bond Fund Initiative has provided resources over a number of years to assist local governments in rehabilitating a number of abandoned industrial properties across Ohio into successful reuse scenarios.

Comment #21:

A resident expressed concern that that the resulting recommendation to cover the ravine with a thin layer of soil was based on an exposure assessment, a component of the risk assessment, which solely considered occupational exposures, rather than including consideration of exposures due to residential land use at the site.

Response to Comment #21:

The risk assessment evaluation for the ravine considered current exposures which result from the landfill to both on-site receptors (occupational) and to off-site receptors (residents) consistent with current and anticipated future land use at the site as approved within the corrective measure study work plan on July 11, 2002. The risk assessment evaluation did not evaluate a hypothetical situation where a resident would reside on site. Please refer to Ohio EPA Responses to Comment #2 and # 9 above for additional explanation.

Comment #22:

A commenter proposed that Ohio EPA consider use of biological resources to help clean up the toxins at the site and made reference to specific studies on the use of mycelium (root hairs of fungus, mushrooms being the fruiting body) in aiding to clean up the site.

Response to Comment #22:

This technology was not considered as a potential remedial alternative during the corrective measure study. Based on Ohio EPA's research this technology is not widely accepted or utilized and remains subject to further development prior to full scale implementation at sites similar to the former Hilton-Davis property.

Comment #23:

One resident questioned whether the site is eligible for Clean Ohio funds.

Response to Comment #23:

Presently, the Hilton Davis site is not eligible for Clean Ohio revitalization funding. The Hilton-Davis site would be eligible for obtaining Clean Ohio Revitalization Funding if or when the property were to meet the definition of a "brownfield", which is defined within O.R.C. Section 122.65(D) as an abandoned, idled, or under-used industrial, commercial, or institutional property where expansion or redevelopment is complicated by known or potential releases of hazardous substances or petroleum. Furthermore, the site would have to be either owned or controlled by a local municipality in order to be eligible to apply for this source of funding.

It should be noted that the current site operator, Emerald Hilton-Davis, manufactures food, drug, and cosmetic colorants, pigments, and dyes at this location. In addition, Ohio EPA continues to require the current property owner, North Pastoria Environmental Corporation, Inc. (NPEC), to address all costs associated with implementation of consent decree-related activities.

Comment #24:

Residents expressed concern that contaminated ground water must be cleaned up, using effective technology like the dual phase vacuum extraction and off-site monitoring wells must be established. Furthermore "Hamilton County and Cincinnati have embarked on an aggressive Green Infrastructure Program to remove storm water from the combined (and leaking sanitary) sewer system. Leaving contaminated ground water means that the contaminants are likely to leach off site the more the MSD uses natural techniques such as permeable surfaces and allow storm water to enter the aquifer. Leaving this contamination on site at Hilton Davis threatens water quality not just in the immediate area, but in any downstream area."

The Metropolitan Sewer District (MSD) is considering daylighting Bloody Run to reduce and eliminate combined sewer overflows (CSOs). If this property is not

cleaned up, MSD may not be able to fully pursue this option, if they do toxics will leach into the stream.

Response to Comment #24:

Some of the selected remedies involve ongoing removal of contaminated ground water from within the former Ravine Landfill area, along with that which has migrated down gradient, thus prohibiting off-site migration of contaminated ground water which would exceed a level (i.e., established alternate concentration limits (ACLs)) that is protective of human health and the environment.

MSD representatives have indicated that they are indeed considering the option of recreating Bloody Run as a surface stream and removing storm water from the Bloody Run Sewer. However, this is only a possibility at this time, one option among many, and there is no indication as to which parts of that sewer they would seek to modify, if any, and which to leave as they are. Ohio EPA's Division of Surface Water estimates that MSD's initial evaluation of such option would be completed in approximately one year. Ohio EPA does not believe that the level of clean up at the former Hilton Davis site will have a significant impact on MSD's preliminary evaluation of options.

Comment #25:

During the information session prior to the public hearing, Ohio EPA stated that the site risk assessment done by the company responsible for cleanup was done with methods that were unclear.

- a. Why has Ohio EPA not required the risk assessment to be done with methods that are industry accepted standards?
- b. Why has Ohio EPA not required the company to clarify the underlying assumptions and processes involved as well as the basis for the conclusions that come from the risk assessment?
- c. Given the statements that were made at the information session about the fuzzy methods used to obtain the data, why does Ohio EPA believe that the information and conclusions from the site risk are valid and reliable enough to use for decision-making?

Response to Comment #25:

During the course of the public information session it was not the intent of Ohio EPA personnel to communicate that the risk assessment for the site was conducted in a manner that was either unclear or was conducted using methods which are not acceptable. The methods that were used to conduct the risk assessment were acceptable methods published within both U.S. EPA and Ohio EPA guidance.

Ohio EPA reviewed the risk assessment in detail and required the company to verify, justify, describe, and clarify, where necessary, all underlying assumptions, input values, methods, processes, and associated conclusions of the risk assessment. Ohio EPA provided all stakeholders with copies of the Notices of Deficiency issued to the company which explained what revisions were necessary to all versions of the corrective measures study reports which contained the human health risk assessment. Final approvals of these documents occurred only after agency personnel had reviewed the revised work products to ensure that all deficiencies were sufficiently addressed.

Comment #26:

During the information session prior to the public hearing, Ohio EPA made statements that implied that the company's proposed cleanup plan was not sufficient. Please outline the specific changes that EPA made to the company's proposal prior to approving the cleanup plan.

Response to Comment #26:

During the course of the public information session it was not the intent of Ohio EPA personnel to give the audience the impression that the company's proposal was insufficient. Ohio EPA required further detailed study of soil vapor extraction and partial excavation for the ravine. For AOI-G (MW-37 area), Ohio EPA required further detailed study of remedial alternatives to address ground water (dual phase extraction, chemical oxidation, and bioremediation).

As compared to the company's proposal, below are the specific changes Ohio EPA is requiring within the agency's selection of the remedial alternatives for the site:

- Modifications to the ground water monitoring plan including additional wells and reporting
- A soil gas monitoring plan for the ravine landfill
- A vapor intrusion awareness program for on-site employees
- Modifications to the soil management plan to ensure it is protective and that it includes Ohio EPA review prior to construction
- An environmental covenant
- Additional excavation at AOI-59 (slit trenches)

Comment #27:

During the information session prior to the public hearing, Ohio EPA stated that the agency was not aware of any contamination issues outside of the Hilton-Davis site. The Ohio EPA also stated that no monitoring or other testing has been conducted to determine if contamination has occurred outside of the site.

- a) Why has the EPA not required that the company do testing and site monitoring for contamination outside of the site?
- b) Considering that the company has been in operation and dumping waste on the site since the late 1920s, what leads the Ohio EPA to believe that no contamination could exist outside of the site property line?

Response to Comment #27:

During the Remedial Investigation phase of consent decree activities the company was required to identify and investigate all areas where previous waste management or process operations may have caused contamination. The result of this investigation did not reveal evidence that process operations or prior waste management activities have likely impacted properties adjacent to the site. As far as contaminated ground water migrating offsite, although contaminated ground water has migrated to off site in the past, concentrations are below the established regulatory standards which are protective of human health and the environment. The objective of the Perimeter Ground Water Control System (PGCS), which was installed in 2005, is to prevent migration of any ground water off site. If in the future contaminant concentrations in ground water are above the established regulatory standards (i.e., ACLs) at the site boundary and the PGCS fails to capture and control this, Ohio EPA would require off-site investigation and further evaluation of additional remedial alternatives.

Comment #28:

A resident expressed disappointment in the Ohio EPA's level of preparation and apparent lack of understanding of their audience's interests and lack of understanding of the time constraints information and public hearing portion of the meeting. The commenter stated that: 1) the EPA never actually discussed the details of cleanup plan that they were considering, 2) the planned presentation was way too long for the time allotted to the information portion of the meeting, and 3) several of the items the EPA did spend time detailing were not relevant to the audience that was present (as evidenced by the verbal feedback provided by the people attending the meeting). It is insulting to think that the Ohio EPA came to the meeting with a plan of just stalling and trying to avoid the real conversation that needed to occur, but in many ways the information session gave that appearance.

Can you please share EPA's intended goals for the public hearing and outline what EPA did to create and ensure a successful meeting that was beneficial to everyone in attendance?

Response to Comment #28:

Ohio EPA regrets that the February 25, 2010 public meeting did not meet the expectations of everyone in attendance. Ohio EPA's public hearings serve one primary purpose: to provide citizens with an opportunity to make oral comments to Ohio EPA regarding an action Ohio EPA has proposed. Our goal at the February meeting, therefore, was to give citizens an opportunity to provide comments and questions on the record that we would consider as part of our decision-making process. It is often challenging to communicate an issue that is as technically complex as the Hilton-Davis site, especially when those in the audience have a wide-ranging level of pre-existing knowledge about the site. Another complicating factor is that, since Ohio EPA does not require citizens to RSVP for our public hearings, we often are unable to anticipate the size of the crowd. Ohio EPA attempted to structure the meeting in such a way that citizens would have an opportunity to obtain some background information from Ohio EPA about the site, ask questions of Ohio EPA staff, and provide their comments on the record. We feel that those goals were met. In addition to the formal public hearing held on February 25, 2010, Ohio EPA staff also attended the next meeting of the Pleasant Ridge Community Council and has made themselves available to any individual who wishes to discuss the site in further detail. Going forward, Ohio EPA will use what was learned from the February meeting to improve and enhance our public meetings in the future.

Comment #29:

Multiple residents wrote to inquire as to when the cleanup at the site will resume.

Response to Comment #29:

Once the Director's final decision and response to comments are public noticed, further work will commence. This will include any proposals, plans, or work required to implement Ohio EPA's selected remedial alternatives.

Comment #30:

Several residents inquired as to whether toxins were getting into their drinking water and whether it would be safe to consume garden vegetables grown on their properties.

Response to Comment #30:

All public drinking water provided to communities surrounding the site is supplied by the City of Cincinnati. The shallow ground water within sand lenses at the site that has become contaminated as a result of past activity is not used as a source of public drinking water primarily because the underlying aquifer is unable to produce flow rates necessary to be useful. Ohio EPA views that the gardens of residents living nearby the site should not have been impacted by site activity.

Comment #31:

One resident questioned how Ohio EPA can ensure indefinite containment of toxins at the Hilton-Davis site.

Response to Comment #31:

As part of the final remedies for the site Ohio EPA requires development and implementation of an ongoing operation, maintenance, and monitoring (O&M) program to ensure that the final remedies remain effective and continue to meet the remedial response objectives prescribed within the consent decree. If any of the selected remedies were to fail, Ohio EPA would then require additional remedies to be put in place.

**Comments/Concerns Expressed by NPEC/Kodak
Representatives on Statement of Basis**

Comment #32:

NPEC comments that a soil gas assessment and monitoring plan is not required since potential worker exposures are under the exclusive jurisdiction of OSHA, and soil vapor migration is not an issue at the site.

Response to Comment #32:

The migration of soil gas is possible when soil or ground water contamination exists. Ohio EPA does not agree with NPEC's use of the term "exclusive jurisdiction." USEPA's OSWER Draft guidance for evaluating the vapor intrusion to indoor air pathway (November 2002) pg 3, 1) states: "generally OSHA will take the lead role". The guidance also warns that when constituents within vapor intrusion may be present in the work place and the facility no longer uses these constituents on site (which is the case with Hilton Davis), then employees may not be aware of such exposures. In this instance the guidance recommends state authorities (Ohio EPA) "notify the facility of the potential for this exposure pathway to cause a hazard or be recognized as a hazard and suggest they consider any potential risk that may result". Ohio EPA plans to address this concern by requiring a vapor intrusion awareness program be included as a component of the final remedy for the site.

Ohio EPA's recommended remedy for the ravine is containment, which applies to soil, ground water, and soil gas. The objective of the remedy is to prevent hazards related to soil gas and landfill gas. In order to determine if soil gas is contained, a monitoring program must be implemented to demonstrate this, such as with ground water. This approach is consistent with a regulatory approach taken at many landfills and is suggested within U.S. EPA Directive No. 9355.0-49FS, EPA 540-F-93-035 "Presumptive Remedy for CERCLA Municipal Landfill Sites".

Comment #33:

NPEC comments that excavation should not required be for slit trenches F & I within AOI 59. NPEC's preferred remedy is to use a cover system (stated to be 9

inches of clay), maintained along with a deed restriction to prevent certain uses, and use of the SMP to prevent exposure during excavation.

Response to Comment #33:

NPEC conducted an interim measure of excavation and removal for the slit trenches. Confirmation sampling was conducted and shows residual contamination remains above the risk based remediation standard indicating that further excavation is required to complete the removal effort. Confirmation sampling indicates that further excavation is required at only 2 of the 13 trenches. For the other 11 trenches, excavation is complete.

Excavation and removal is an iterative process, sometimes requiring more than one field mobilization. NPEC's preferred approach of using a cover system to prevent risk exceedance associated with 2 of the 13 trenches is estimated to cost \$389,000, in addition to limiting use of the entire 1.3 acre area. Ohio EPA's proposed alternative would involve limited additional excavation, confirmation sampling, and demonstration that the risk based remediation standard at 2 of the 13 trenches has been achieved. This is estimated to cost less (approximately \$28,000 per 100 CY of excavated soil per the CMS).

End of Response to Comments/Recommendations